Railway Age

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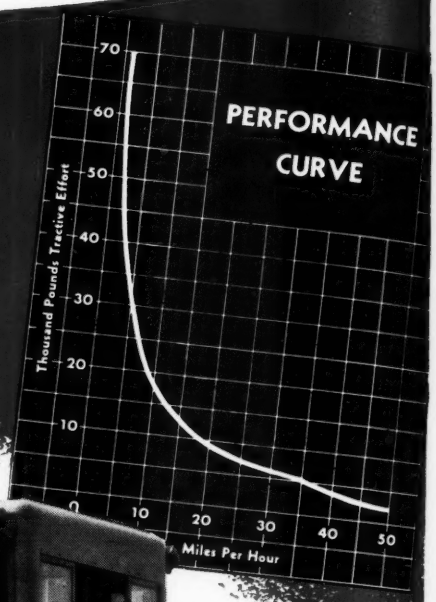

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New York Central Finds Women a Success in Scrap and Reclamation Work ***968***

Faced with an unprecedented labor shortage in the spring of '43, this railroad management decided upon an experiment—full-time employment of women. Now, A. L. Prentice, scrap and reclamation head, pronounces: "We would have been sunk without the women."

Railways Foster Air Transport ***974***

C. H. Dickins, vice-president and general manager of the Canadian Pacific Air Lines, in this article credits parent rail lines for their help and experience in providing ground services for the development of air carriers in the Dominion.

If There's No Water, Kill the Fire ***978***

Milwaukee posts bulletins to educate locomotive crews on possible dangers resulting from failure to observe water-levels. Superintendent of Motive Power, J. E. Bjorkholm, approaches this subject from a new angle.

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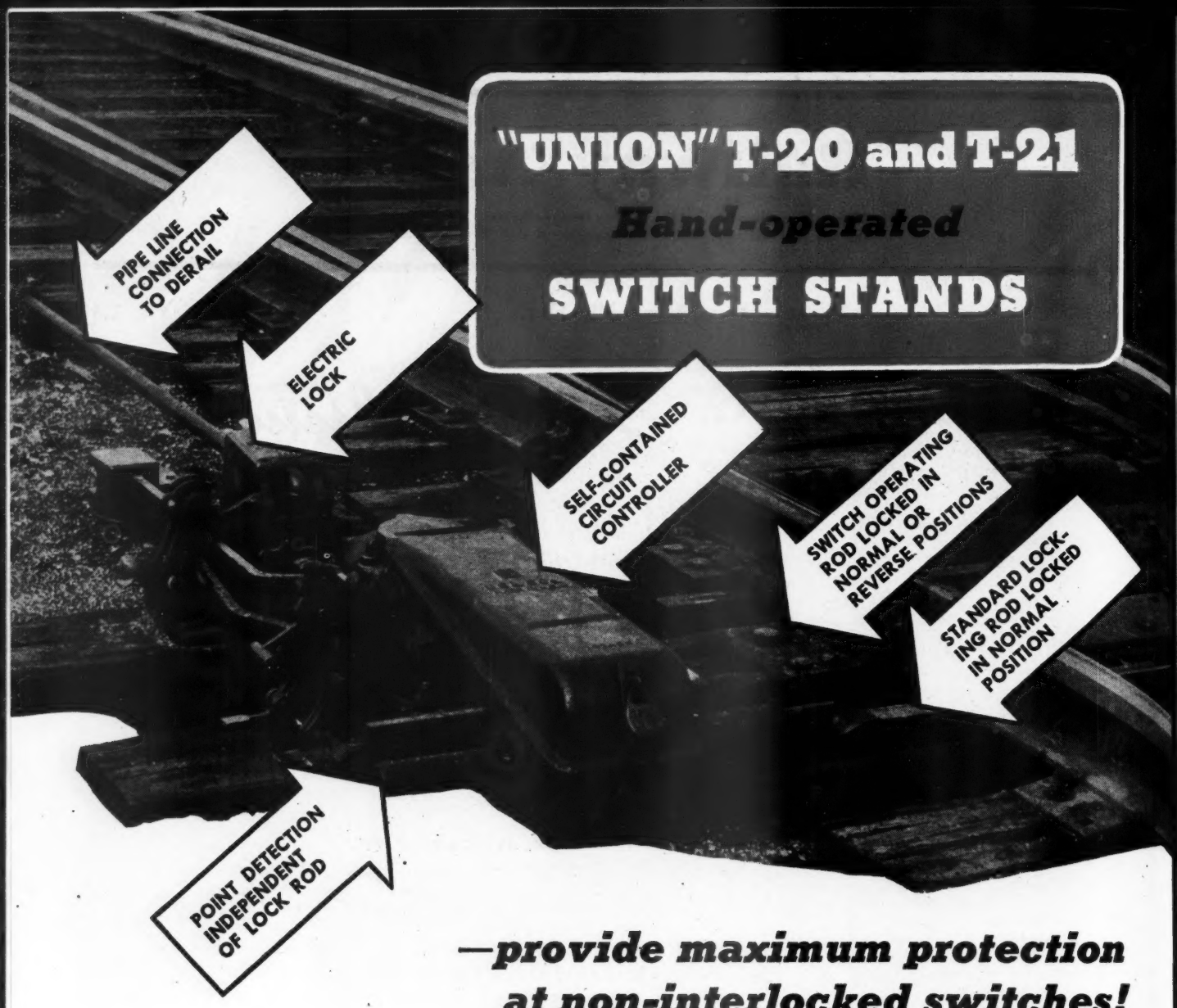
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The Week at a Glance

TRUMAN REPORT. The Senate committee investigating the conduct of the war has reported that grave danger to adequate transport exists by reason of denial of essential materials for transportation equipment. Its observations and recommendations are reported in an article in this issue. The Truman report reminds the public that Dr. Goebbels has been expecting that railroad transportation would be the "Achilles heel" of our war effort.

●

V-MAIL FROM THE BIG 5: In July, at the middle of the month, there were 8,224 passenger conductors—and wages for this classification were $2,824,902 in that month, an average of $343.50 per employee. This is earning money at the annual rate of $4,122. By a similar calculation, passenger engineers averaged $378.55 in July—an annual rate of $4,543. These figures do not include the 4-cents-an-hour increase these employees are now getting, under the award by an Emergency Board against which a strike has now been ordered. One may wonder what will be the thoughts of the boys fighting for their lives in the mud of Italy and the Pacific tropics—and of the lonesome kids in planes over Germany—when they compare the sacrifices they are making for their country with the attitude of home-front soldiers who threaten to walk away from their vital posts because $4,000 and $4,500 a year isn't enough for them.

●

SUCH TACTICS WON BEFORE: There is a wide difference between the positions of the ops and of the non-ops in the two current cases. The non-ops were awarded an 8-cents increase by an Emergency Board, and, in their effort to induce Congress to validate that increase, all they are doing, in effect, is to ask it to support the findings of a duly-constituted tribunal. With the ops, the case is quite different. After full hearing of the evidence, an Emergency Board awarded them a 4 cents increase, and they are now getting it. Their strike threat is, therefore, directed against the United States government and at the orderly processes provided by law for the settlement of wage disputes. The unions (ops and non-ops alike) behaved similarly on the eve of Pearl Harbor and were not punished, but rewarded with larger increases. John Lewis last summer also demonstrated the type of union leadership which, under present national leadership, "gets the most for its members."

●

A BROKEN PROMISE: In opening the wage case of the op unions before the Stacy board last June—against the decision of which a strike has now been called—the unions' counsel, Edward J. Flynn, said that other unions had approached members of these organizations and "insidiously suggested that they take more direct action if they want to attain the results they seek." Such suggestions, Mr. Flynn said, the employees had ignored. "There is no thought in their minds that they will receive an increase, or else." It is evident, therefore, that, since last summer, a deterioration has occurred in the respect of these unions for orderly processes. It has been observed that there is a "Gresham's law" in unionism—the bad drives out the good, especially when force and intimidation are never punished, but uniformly bring greater rewards than submission to established tribunals. The New York Times observes that part of the responsibility for the present situation rests on the Administration and Congress, which, instead of penalizing wartime strikes, has given the strikers "essentially what they wanted."

●

LOW WATER IS DYNAMITE: If he will think it over (as J. E. Bjorkholm, s. m. p. of the Milwaukee strongly advises), the average engineman would probably find it less embarrassing to report to his master mechanic or superintendent, explaining why he killed his fire and tied up the railroad—than to appear before St. Peter with an account of all his earthly doings. So runs Mr. Bjorkholm's persuasive argument, in an article herein, telling of the Milwaukee's educational efforts among enginemen, to arouse in them appropriate sentiments of apprehension "when the water begins to play peek-a-boo with the basement of the water glass."

●

REED ON NON-OPS' CASE: There was considerable discussion in the Senate last week (reported in our news pages) of the non-ops' wage case, prior to the passage by the Senate of the resolution calling for payment to these unions of their 8-cents increase, over Vinson's protest. Senator Clyde Reed, who has been no darling of the union leaders, denied that Senate action was "under compulsion." He said he had heard the story of these men "off the record," and the kind of treatment they had received at the hands of government officials was "almost unbelievable"; "three different times they had been given to understand that this agreement would be accepted." He went on further to say that he had never dealt with a "more reasonable body of men than the non-op leaders."

●

RRs' AIR INTENTIONS: Two large railroads have, during the past week, made statements of policy regarding other forms of transportation which should serve to clear the air of hysterical charges of deep designs of the railroads to monopolize and stifle other agencies of transportation. The Pennsylvania reminds the public that it was one of the pioneers in air transportation, although it does not participate in this activity at the present time. It has a financial interest in, but does not manage, the Greyhound bus lines in its territory. It operates trucks, by ownership or contract, but only to provide "accessorial" services. It has no purpose to establish a monopoly of rail or any other form of transportation. The New Haven, in newspaper advertisements in its territory, emphasizes its intimate acquaintance with the commercial geography in its territory; and its belief that air transport service can best and most economically be afforded this region by co-ordination of its organization with that of an established air line.

"STIFLING" AIR TRANSPORT: "Surface carriers" should not be permitted to participate in the ownership and operation of air lines, because their real purpose is to "stifle" air transportation—so runs the argument of the air transport monopolists in their effort to secure prohibitory legislation against railways engaging in air transportation. In an address reported in this issue, Vice-President Dickins of the Canadian Pacific Air Lines discusses the widespread development of air transport in Canada—under sponsorship by the railways—and concludes that, without railway participation, advancement of air transportation in the Dominion would have been much less rapid. The possession by the railways of a ready-made "ground" organization, available to the air lines without loss of time and at a fraction of what an independent organization would cost, is noted as especially helpful.

●

WOMEN GOOD SCRAPPERS: Not in the sense of belligerency, of course (upon which aspect of femininity your observer hazards no opinion), but in the sorting of used materials—taking care not to discard the still-serviceable. Such, at any rate, has been the experience of the New York Central at Ashtabula, which is recorded in an illustrated article herein. Some of the special problems which arose in connection with the use of women for such work—and how they were solved—are revealed. The girls seem to be doing all right; the plant manager says, "We would have been sunk without them."

●

NEGRO EMPLOYEES: Sixteen southern railroads have informed the President's so-called "Committee on Fair Employment Practice" that they "cannot comply" with its order to "cease and desist" from certain practices in the employment of negro labor, agreed upon with the unions, which the Committee finds objectionable. The unions did not appear to present a case at all, when the "Fair Employment" committee summoned them, and the railroads assert that the Committee is "without constitutional and legal jurisdiction" to issue orders. The head of the Committee is a New Dealer, Malcolm Ross, who was with the National Labor Relations Board in its rough-shod early days; and is not one to exhibit patience or understanding when "social gains" which strike him as desirable are not accomplished overnight.

●

STAR CHAMBER: Public reaction to the railroads' decision to "defy" the committee appears to have been almost wholly favorable. Congressman Marcantonio (who has, heretofore, usually followed the Communist party line) has objected to the railroad position. Congressman Rankin has supported the railroads in their opposition to making innovations, irresponsive to the dominant opinion of their territory, in obedience to an extra-statutory Administrative tribunal, which presents some of the attributes of the Star Chamber and other "prerogative courts" under the Stuart kings (for whose behavior, incidentally, many contemporary parallels may be found).

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RAILWAY AGE

Efficiency FOR VICTORY

A Paradox in Transportation

The greatest paradox in transportation is that any company excepting a *railroad* company can engage in any kind of transportation it pleases, but that a railroad company cannot engage in any kind of business but transportation, cannot engage in transportation by water, and would be, by proposed legislation, prohibited from carrying on transportation by highway or air. The interest of the public in getting the best total transportation service at the least total cost obviously is the only thing that should be considered by government; but in present policies and proposals it seems to be given less consideration than anything else.

It seems obvious that an ideal transportation system would be one which could afford every customer a fully co-ordinated service—i.e., a service by which his freight—or he, as a traveler—could be carried from origin to destination entirely by rail, highway, water or air, or by any two or more of these means that he preferred. No *railroad* company can now legally provide such a co-ordinated service. But *any other kind of company whatever* can legally do so.

Railroad companies are prohibited from owning and selling any commodities they transport, excepting timber and its products. But numerous manufacturing and commercial companies own and operate railroads, coastwise vessels, towboats and barges on inland waterways, and truck lines which transport commodities owned and sold by these companies. Railway companies are prohibited from operating carriers by water and, as already stated, proposed legislation would extend this prohibition to their ownership of carriers by highway and air. But there is nothing in either existing or proposed law that would prohibit any other kind of transportation company, or any manufacturing or commercial company, from acquiring even the biggest railroad and operating it in connection with its other business, including other means of transport that it owned.

These are important facts which are unknown to most of the public. And they strikingly indicate the anti-railroad prejudice which still so largely dictates our present and proposed government transportation policies. No doubt railroad managements largely created this prejudice before they were effectively regulated. But since passage of the Transportation Act of 1920 the railways' rate-making, accounting, financing, operation, and relations with their employees and more recently their relations with other means of transport, have been strictly and effectively regulated. Meantime, their investment has increased much more than their capitalization. Their service has been improved in every way and vastly expanded. Their freight revenue per ton-mile has become the lowest since World War I; their passenger rates the lowest in history. Why, then, let prejudice against them created before World War I dictate national transportation policies during and after World War II?

Railroad companies are, as a practical matter, the only agencies that could provide co-ordinated and complete transportation service from origin to destination. They are not seeking a "monopoly," as charged. They know that other companies will operate carriers by highway, water and air. They merely desire to operate non-rail service in co-ordination with their rail service when thereby the public will be best served and the cost of service will be reduced to the practicable minimum. There would still be competition between them and carriers not railroad-owned. Why, then, prohibit the railways from engaging in other kinds of transportation, while not prohibiting anybody else from engaging in any kind of transportation, even by railroad?

N.A.M. Submits to Self-Critical Analysis

The tenor of the proceedings of the annual meeting of the National Association of Manufacturers last week was definitely encouraging, because the speakers devoted much attention, not to denouncing the sins of other groups in the community, but to considering departures from reasonable and principled behavior of which industry itself is often guilty.

Chairman Alfred P. Sloan, Jr., of the General Motors Corporation, in as comprehensive and learned an address on general economic policy as, probably, any leader of industry ever uttered, emphasized the difficulties which will attend the conversion from war to peace, and said that business must develop the statesmanship necessary for this transition, or private enterprise will be supplanted by some form of socialism. It will not be enough, he said, for business to "let nature take its course." Instead, each enterprise must, assuming the attendant risk, make positive plans to employ men and invest capital, in proportion to an estimated national income which they will have to gage by faith, in the absence of assurance.

Assuming that the government will adopt policies enabling the profit motive to function, Mr. Sloan said that post-war national income could and should be in the neighborhood of $100 billions (in dollars of pre-war value), and, on that assumption, General Motors would be prepared to invest $500 millions in plant conversion and new tools. To remain free and private, he said further, enterprise must really compete, developing new products, and producing "existing things at lower prices." He outlined a number of policies which must be adopted by government, in order to give industry the necessary incentive of "possible profit"—among these, a let-live program of government contract cancellation, the opportunity for business to accumulate post-war reserves, and downward revision of taxation. Business also must do its part, especially by passing on to consumers a substantial part of the economies of improved technology, so that larger demand may be engendered to support increased production and employment.

Dr. Henry M. Wriston, president of Brown University, gave the manufacturers plenty to think about in his speech on "free enterprise," which, he said, is something everybody professes to believe in, if care is taken not to define the term too closely. There is, Dr. Wriston said, plenty of enterprise in tyrannical states—Germany, Russia, Japan—but such enterprise comes to grief because there is no dependable way of forcing it to produce the things that people really want. Such controls of economic policy can be had, he went on to say, only in a free, competitive market, where decisions as to production policies are tested by the desires of individual men. The policies of those producing for a competitive market cannot be tyrannical, because if they do not subordinate their own predilections to the wishes of the individuals who compose the demand side of the market, they do not stay in business very long.

Thus, a free competitive market is an indispensable factor to economic freedom—and we do not have such a market when the government is permitted to engage in production (making people pay for the things, by taxation, whether they want them or not).

The principles expounded to the manufacturers by Dr. Wriston are precisely those that have long been most flagrantly violated, with the active or passive approval of industry, in dealing with transportation—wherein the fixed plant used by all agencies, except railroads and pipe lines, is supplied by governmental funds, coercively exacted from the taxpayers, and without submission to the control of the market place. We shall wait with interest to see whether the members of the N.A.M., having applauded Dr. Wriston so vigorously, will demonstrate by the policies they henceforth advocate toward transportation, that they have in fact fully comprehended what he said to them.

Labor Shortage in the Mechanical Department

While some slackening of demand for additional help in railway mechanical department work is apparent as the year nears its end, the amount of locomotive and car maintenance work now being performed is definitely less than desired by the railroads. This is partly due to difficulty in releasing and holding equipment in repair shops long enough to restore service life as fast as it is being run out. It is further caused by inability to get necessary mechanical help in the various classifications required.

On one transcontinental carrier which now employs a mechanical department force of 5,159 men in the locomotive department and 3,975 men in the car department, or a total of 9,134, a shortage of 427, or 4.67 per cent, is reported for November. This shortage amounted to about 130 men last January, increased to 260 and 310 in February and May respectively, dropping to 200 by July, again increasing to a peak for the year of 490 in October, and then slightly receding to 427 in November, as stated.

A breakdown of the figures of manpower shortage in the mechanical department of this railroad, which may be considered more or less typical, is interesting because it throws light on the various classes of help most badly needed. For example, 174 vacancies for mechanics were reported in November, those most in demand being, first, machinists; second, boilermakers; third, carmen. A deficiency of 96 additional helpers and apprentices was reported, machinists again being first; carmen, second; and boilermakers, third. The shortage of unskilled coach-cleaners, fire-knockers and

laborers was 152 which, with 5 miscellaneous vacancies, made a total shortage of 427.

Women have not been hired extensively on the road mentioned, owing primarily to lack of facilities and objections raised by some shop organizations to the employment of women as mechanics. Up to the end of November, 195 women were employed, largely as coach-cleaners, laborers, etc. A total of 1,072 men have left the mechanical department of this road to enter military service. Some idea of the way operations are being handicapped by railroad contributions of manpower, either directly or indirectly to the war effort, is afforded by the fact that, in the period between December, 1941, and October, 1943, the mechanical department of another large carrier released 1,618 men to military service and 407 men to various war industries.

Flexible Programs

The year now closing has been characterized by distorted maintenance of way programs. While the amount of money spent for the upkeep of the fixed properties has exceeded all previous records, many types of needed work, such as the renewal of rail, have been grossly neglected because of inability to secure the necessary materials. Coincident therewith, other types of work, such as bank widening and ballasting, have been done in unprecedented volume, in accordance with a desire to get them out of the way preparatory to the days when work involving "critical" materials may again be undertaken. All in all, the year has been one of seriously unbalanced roadway and structures activities.

The year that is about to open promises to follow the same pattern, although varying in important details. It now appears, for illustration, that steel will be available in increasing quantities. Already the allotment for rails to be rolled during the first quarter of 1944 has been increased over the corresponding period of 1943, and the increasing suspension of production of military supplies in some plants foreshadows an easier market for steel for railway uses as the year advances. On the other hand, the situation is rapidly becoming more acute with respect to ties and timber. Lumber is now the Number 1 problem in materials; ties are hardly less scarce, in contrast with the condition this year when the supply, while short, did not result in serious under-maintenance. As much cannot be said for the outlook for next year.

The distortion of normal and orderly roadway maintenance demonstrates the need for an unsually flexible program next year which can be revised quickly to take advantage of any developments that may occur in materials or in labor. This calls for unusual alertness on the part of supervisory officers and equal receptivity to recommendations by those executive officers to whom they report. Programs are vital to maximum efficiency in the use of labor and the materials at hand, but these programs must this year be regarded more largely as bases from which to start than as schedules to be followed without deviation. Those railroads will make greatest progress in overcoming the record wear and tear in 1944 that are most alert to detect and take advantage of the changes that will occur as a result of developments on the battle front.

Peak Traffic Measures

The railways are now entering the period of maximum demand for passenger transportation. In spite of the appeals of the Office of Defense Transportation and of individual railroads that the public confine its travel to essential trips, and the banning of employee travel during the next few weeks, it is recognized that the volume will tax the facilities that are available more seriously than the railways have yet experienced. This travel will place an added burden on ticket sales forces, on train crews and on other employees who will come in contact with this segment of the public in frantic motion.

These employees will be overworked; they will face added difficulties in coping with the crowds; in all respects their tasks will be difficult.

In the solution of this problem, the railways of necessity are employing inexperienced persons whose lack of familiarity with their duties and with the needs and whims of travelers will lead to confusion and trouble. But these very difficulties provide opportunities for making friends for the railways—friends who will remember after the present congestion has cleared up. Instances are many and are increasing where employees are rising to their opportunities. They warrant encouragement.

This situation calls for special attention on the part of supervisory officers to aid inexperienced recruits, to encourage those who are hard pressed and to correct such errors, incivility and discourtesy as may arise. This situation calls also for added supervision during the peak period, possibly by transferring employees for a short time from other activities which may not be so pressing at the moment.

The handling of the holiday traffic constitutes a challenge to the railways, which warrants the same resourcefulness, ingenuity and long hours by those in positions of responsibility that is expected of similar officers in times of wash-outs, blockades and other operating emergencies.

Every great reform which has been effected has consisted, not in doing something new, but in undoing something old. The most valuable additions made to legislation have been enactments destructive of preceding legislation; and the best laws which have been passed, have been those by which some former laws were repealed.—HENRY THOMAS BUCKLE.

N. Y. C. Finds Women a Success in Scrap and Reclamation Work

Careful planning, able leadership and good working conditions maintain production and strengthen morale

An Efficient Woman Worker Gaging Coil Springs

EARLY in the spring of 1943 the system scrap and reclamation plant of the New York Central at Ashtabula, Ohio, was confronted with a serious and perplexing labor problem. Faced with an unprecedented shortage in available manpower, the management launched a new experiment involving the employment of women as full-time laborers, and of high school boys for part-time work after school hours and during weekends, and full-time during the summer vacation.

"Sunk Without the Women"

After more than seven months of intensive plant operation, during which more than 12 per cent of the plant's 300 employees consisted of women workers, A. L. Prentice, manager of scrap and reclamation of the railroad, sums up the results with the statement that, "We would have been sunk without the women!" Although several boys handled their work with outstanding efficiency, nevertheless as a group they were surpassed by the women in dependability and productive effort. By far the most interesting and satisfactory development has been the employment of women for the handling, shipping and storage of repaired and reclaimed materials as well as for the sorting and handling of the scrap metal.

It was with some misgivings that the plan was placed in operation last April, for the sorting and handling of railway scrap metal is far different from bench work in a factory or other tasks assigned to women in industry. It was a question, however, of hiring women or attempting to carry on the system's scrap and reclamation operations with a labor deficiency of 12 to 15 per cent.

In the beginning, 24 women were put to work at various tasks throughout the plant. It was soon apparent that the plan held good promise and the hiring was continued, with the result that the total number of women working during the last few months has varied from 36 to 38, and additional women workers will be hired whenever possible as more of the plant men are called into the armed forces. Employment was also supplemented by the hiring of 17 high school boys ranging from 16 to 18 years of age, after obtaining approval of the local board of education, for part-time work during the school year, and full-time during the summer vacation. At present, all the boys are under 17 years of age.

Among the boys were several who, by reason of their interest, adaptability and industriousness, surpassed many of the men. However, it was soon found that, as

a group, they are inclined toward playfulness and boyish pranks; and, as a result, it was deemed inadvisable to work them in isolated groups throughout the yard. Consequently, gang leaders were selected from among the more suitable men and the boys were distributed among several small gangs, each under the direction of a gang leader who, in turn, reported to a regular foreman.

Plant Production Increases

Productive output by the women has not only been commensurate with the cost, but there also has been a noticeable improvement in the general production of the plant, and a corresponding lift in employee morale since the women were employed. For the last several months the second trick, assigned to the sorting of miscellaneous ferrous scrap, has been made up of 18 women and a few men under the supervision of experienced foremen. They are handling the work like veterans. With apparent ease and a series of well co-ordinated movements coverall-clad women, in sorting maintenance of way scrap, pick up angle bars and tie plates and with swinging strides carry them and deposit them in piles, to be picked up later by the magnet of an overhead crane.

Evidence Enthusiasm for Work

Steadily, the women repeat these movements as entire carloads are sorted and handled, and it is acknowledged that they are especially careful in sorting the smaller items such as anti-creepers, spikes, bolts and nuts. The women have also proved more adept at handling and segregating shipments of small pieces of mixed scrap such as brass and aluminum, which are sorted in another part of the plant.

Although women applicants are not required to undergo a medical examination, each one is interviewed by an experienced supervisory officer who is thoroughly acquainted with the physical requirements for every assignment in the plant. Experience has shown that active women weighing not less than 130 lb. are more desirable by reason of the physical requirements involved. Ranging from 19 to 50 years, the average age of the women is about 32 years.

The majority of the women, particularly among the younger group, are high school graduates, and a graduate nurse is one of two women regularly assigned to one of the large shearing machines.

Enthusiasm for their work is readily apparent, and the management stresses the necessity for explaining in detail the object and importance of every operation to which the women are assigned. As a result, morale is high and the women are adept and efficient workers. On the day before the first women workers entered the plant, a general meeting of all plant employees was called for a frank discussion of the emergency employment plan. In addition to outlining the work which was to be assigned to the women, the men were reminded of their obligation to treat the newcomers with the same respect shown members of their immediate families. As a result of this policy and with wise supervision, many minor problems were anticipated and ironed out to promote co-operation among both sexes.

Labor Turnover Relatively Low

According to the latest report from the Bureau of Labor Statistics for the month of July, all manufacturing industries throughout the country hired an average of about 8 new employees per 100 plant workers; while separations, including quits, discharges, layoffs, military separations, deaths and retirements averaged approximately 7.5 for each 100 employees on the job. Labor turnover within the women's group at the Ashtabula plant has been relatively low, and has been confined to the discharge of three for incompetence, and the resignation of two of the older women who complained of the heat and quit in midsummer. During the exceptionally hot weather, the women experienced no more apparent discomfort than the men, and no appreciable difference was noted in the relative productive output of the two groups.

Moreover, the women quickly learned to provide themselves with wearing apparel suited to their individual tasks.

No reportable personal injuries have been sustained by the women during more than seven months of intensive work, and at the end of the first week in November, the plant as a whole had worked more than 600,000 employee-hours during 1943 without so much as a single reportable personal accident.

Women Are Adept in Gaging Journal-Bearing Wedges

Handling Materials with Hand Trucks

Every woman attends a regular weekly safety meeting, with each gang comprising an individual group of both men and women workers.

The women are engaged in a wide variety of tasks including: (1) the sorting of heavy ferrous scrap, (2) the sorting of non-ferrous scrap, (3) operating plant motor trucks and tractors, (4) the inspection and classification of such materials as helical car springs, journal bearing wedges, etc., (5) storehouse attendants, and (6)

handling wheelbarrows and hand trucks in transferring, loading and storing equipment and materials. Six women are employed as classified laborers, with a higher wage rate, which serves as an incentive to the remainder who are classed as common laborers. Working hours are the same as for male employees—straight eight-hour shifts. In the observance of the state labor law, the assignments for female workers are limited to tasks requiring the continual lifting of loads not in excess of 35 lb.

In the sorting of heavy ferrous scrap, the women work in either segregated or mixed gangs under the immediate supervision of an experienced foreman. Smaller groups of women assigned to various duties, principally in connection with the handling of material throughout the plant and yard, usually comprise two or three women with a man leader. One or more such groups are under the direct supervision of and report to a foreman. The leaders are carefully chosen from among the more experienced and trained men, and their duties consist of explaining the various details involved, and of encouraging and setting the pace for the women laborers.

Plant Morale Is High and No Reportable Injuries Have Occurred Among Women Workers

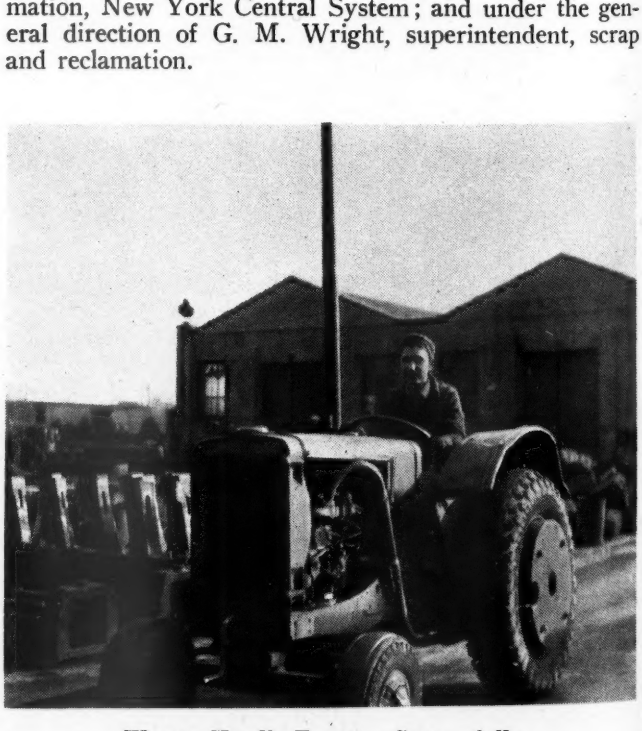
Segregated locker rooms, lunch rooms or mess halls, and toilet facilities are provided and maintained in accordance with strict standards of cleanliness and sanitation. At first the window glass of the lunch room was painted over, with the thought that the women desired privacy during the lunch period, but it was soon apparent that this encouraged lounging in the mess hall, engendered discontent and made for lack of interest in their work. Removal of the paint remedied the situation. Today, the women's mess hall is the counterpart of the men's, and a genuine spirit of real interest in their work pervades the entire feminine unit.

Careful Planning and Able Leadership

Careful planning, able leadership and a close-knit organization are the factors largely responsible for the success of the plan for the emergency employment of women workers at the Ashtabula plant. Despite the fact that the general type of work is in marked contrast to that assigned to women in general industry, all of them are intensely interested. Freedom from detail bench work and recurrent assembly procedures, good working conditions, open air and the prospect of physical exertion, all have their appeal. Limited labor turnover and plant production records of the last seven months attest the liking the women have for the work.

Ashtabula is located in a highly competitive labor area. Plant expansions in conjunction with war contracts have necessitated considerable construction work. In and around the city are many manufacturing plants producing chemicals, alloy steel, carbide and ferro-silicon products; ordnance plants engaged in the manufacture of small arms; several tanneries; and ship yards engaged in the building of ore carriers for operation on the Great Lakes. Despite the competition of local plants, as well as from the Cleveland, Ohio, metropolitan manufacturing area, some 50 miles to the west, and Erie, Pa., 40 miles east, a large proportion of the women that were hired last spring are still at work at the Ashtabula plant.

The employment plan described in this article was developed and placed in operation under the general supervision of A. L. Prentice, manager, scrap and reclamation, New York Central System; and under the general direction of G. M. Wright, superintendent, scrap and reclamation.



Women Handle Tractors Successfully

What Tannins Do in the Treatment of Locomotive Boiler Water

Although the role they play is not yet fully known, the benefits derived from their use are recognized and they are now being employed almost universally

By C. R. Knowles

Superintendent Water Service (Retired), Illinois Central

TODAY, treatment of the water delivered to locomotives is recognized as a vital necessity. This was not always so, however, for, so far as the railways are involved, water treatment had its inception in 1891, when the Oregon Short Line, now part of the Union Pacific, erected a lime-soda ash water-treating plant of the intermittent type to improve one of its locomotive supplies. This plant did not attract much attention, however, and it was five years before the second railway water-softening plant, of the same type, and using the same process, was erected by the Southern Pacific.

Four years later, in 1900, the Denver & Rio Grande Western made the first improvement in the process by erecting a lime-soda ash plant of the continuous type.

A water-softening plant designed to pre-treat boiler water represents a sizeable investment, and in an effort to avoid the expenditure necessary to install such plants, not a few roads and individuals experimented with the interior method of water treatment. For various reasons, two of which were inherent in the methods in vogue, these experiments were not a success. It was the practice to rely on the enginemen to introduce the chemicals into the tender when water was taken and any failure to do this nullified the potential benefits to be derived from the treatment. Obviously, it was not practical to provide the engine crew with special dosages for each water station, for which reason the formula was based on an average of all of the waters on the locomotive district and, therefore, was not fully effective for any of them.

Wayside Treatment Devised

To overcome these and other disabilities which then afflicted the interior method of treatment, a simple wayside treating plant was devised about 1926, which made it possible to introduce the treating chemicals into the water as it flowed into the storage tank, although proportional devices for the application of soda ash alone had been used as early as 1910. For the first time also, it became possible to establish treating formulas which would be effective for each of the waters that were being treated.

It was the development of this device, and of the improvements that have been made from time to time to increase its effectiveness, that has made possible the successful use of tannin extracts in the ways which are being employed so widely today.

The principal tannins used for the treatment of boiler-waters are chestnut extract, derived from chestnut oak bark or from chestnut wood, a domestic product; and quebracho extract from the wood of the quebracho tree, which is imported, the chief source of supply being South America. General conservation order M-277 issued by the WPB, on March 15, 1943, placed sharp restrictions on the use of tannins in all industries, except the drilling of wells by the petroleum industry, which uses only quebracho or urunday extract. This order prohibits the use of chestnut extract in the manufacture of water-treating materials, and limits the use of tannins of all kinds to the amount and rate of consumption in 1942. Eliminating or restricting the use of chestnut extracts interferes seriously with railway water treatment, for both research and experience over a period of many years have demonstrated that no other vegetable tannin materials can be substituted satisfactorily for chestnut extract in certain processes of boiler-water treatment.

Where Tannins Come From

Tannins used in the treatment of boiler waters are usually referred to as "organic matter." However, this term embraces not only tannin but many other organic materials, including by-products of many manufacturing processes, which should not be confused, however, with true tannins. Thorpe's Dictionary of Applied Chemistry describes about 50 different tannins, while a pamphlet published by the United States Department of Commerce lists 143 vegetable sources of tannin from Latin America alone.

For all practical purposes, however, so far as water treatment is concerned, the discussion may be confined to chestnut, chestnut oak and quebracho tannin extracts.

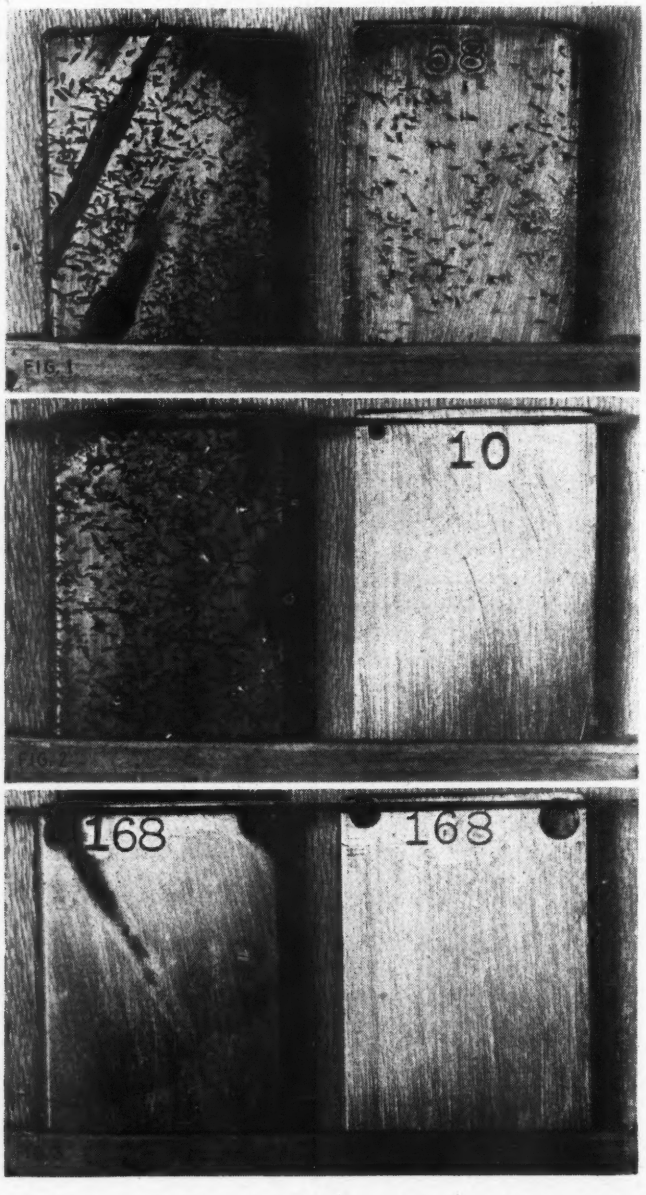
Chestnut oak contains about 20 per cent of tannin and yields from 18 to 20 per cent of extractive matter which is rich in acid-forming sugars. For this reason, it is considered to be one of the most valuable tannins. Quebracho tannin is from the wood of the quebracho tree, a native of South America. It yields about 18 per cent of tannin and from 22 to 25 per cent of extractive matter, of which 80 per cent is estimated to be tannin and 20 per cent non-tannin. These extracts are difficult to dissolve in water, it being necessary to clarify them by sedimentation or to render them soluble by means of chemicals, the most common method being to treat the extract with sodium bisulphite. While this

extract is sulphited it should not be confused with sulphite cellulose extracts.

Sulphite cellulose extracts are made from the waste liquor produced in the manufacture of paper pulp by the sulphite process. This liquor consists of the ligneous matter dissolved from the wood by the sulphite solution. When tested by the hide-power method, sulphite cellulose shows about 25 per cent of absorption by the hide substance. While the reaction on hide powder is similar to that of tannic acid, there is no evidence that tannic acid is present in sulphite cellulose.

Hemlock, oak, and other tannins are used to some extent in water treatment but their use is so limited that they are of only minor importance, compared with chestnut oak and quebracho. While large quantities of pure tannin are used in other industries, only the extracts in liquid or powdered form are used in water treatment.

One of the first comprehensive discussions of their value in relation to boiler water and of the correct methods of application, was in 1900. In that year, Dr. W. H. Edgar, president of the Dearborn Drug & Chemical Company, now the Dearborn Chemical Company, and one of the best informed water engineers of his time, presented a paper before the Western Railway Club at Chicago, in which he pointed out the mistakes made by others who had attempted to use straight tannate of soda. He advised the use of tannin extract with a small amount of tannate of soda. In subsequent years, others reported successful results from the use of tannin in water treatment, only to meet with opposition from the opponents of tannin for, in spite of the abundant evidence of its value when applied to water treatment, a certain prejudice continued to exist in the minds of some water engineers and chemists who were outspoken in their denunciation of its value as a water treating material.



Figs. 1, 2 and 3—Test Panels Showing That Only the Right Combination of Tannins Will Prevent the Formation of Scale

Use in Water Treatment Doubles in Decade

It is only within the last ten or twelve years that the benefits derived from the uses of tannin have been generally recognized and accepted. Today the use of tannin, or some substitute for it, is not only almost universal where water is treated for boiler use, but it is at the same time classed among the materials vital to the successful treatment of boiler water where the internal method is followed. Its use in water treatment has more than doubled during the last decade. It is estimated that the consumption in railway water treatment alone increased from 10,388,000 lb. in 1933, to 22,100,000 lb. in 1942. The consumption in 1942 was approximately 14,000,000 lb. of chestnut oak extract and 8,100,000 lb. of quebracho extract. The consumption of sulphite cellulose extract and other products from waste sulphite liquor also increased from approximately 150,000 lb. in 1933 to more than 5,000,000 lb. in 1942. The total consumption of tannins for all purposes in 1942, not including sulphite cellulose extract, was 735,000,000 lb., of which 395,000,000 lb. was chestnut and 250,000,000 lb. quebracho. The railway consumption, therefore, represents only a little more than 3.4 per cent of the chestnut oak and quebracho extract used for all purposes.

Beginning of a Remarkable Development

In all probability the rapid trend toward the general recognition of tannin as an important adjunct to proper water treatment was greatly accelerated by the results accomplished through tests made with various forms of treatment on the Illinois Central in 1930. While this road had been using tannins for many years, these tests demonstrated clearly their value in water treatment and marked the beginning of the remarkable development in internal treatment that has placed this method in the forefront on American railroads. This is evidenced by the fact that there were only a few hundred internal treating installations in service in 1930, most of which were of the by-pass type, for up to this time most of the internal treatment was applied by the hand or bucket method. Incomplete records for 1939 show 1,200 internal plants of the automatic proportioning type. These increased to more than 1,800 in 1942.

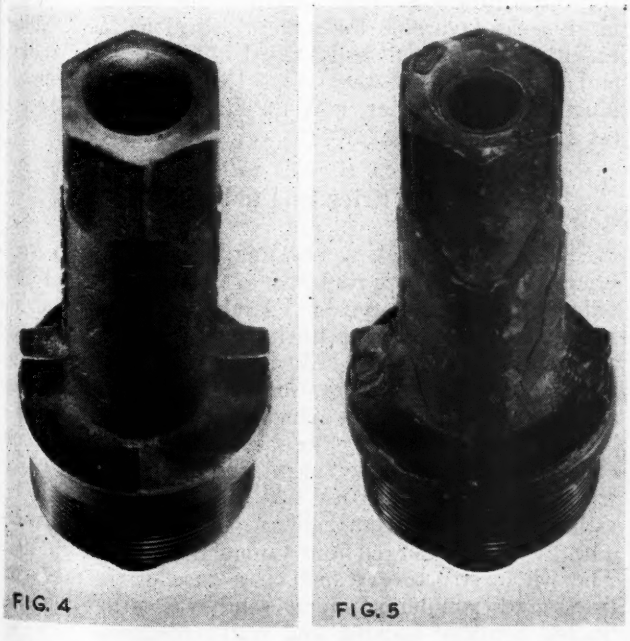
The use of tannin received still further impetus from the experiments made with tannin by the Bureau of Mines at College Park, Md. The Illinois Central tests were made on locomotives in actual service, in connection with an extensive program of water treatment, for the purpose of developing the most satisfactory and economical form of treatment for use. The College Park experiments were made in co-operation with the Association of American Railroads and other associations in an effort to determine the cause and to over-

come intercrystalline corrosion or cracking of boiler sheets, which was prevalent on a few railroads. Both of these tests proved that tannins play an important part in boiler-water conditioning.

How Tannins Act in the Boiler

Among the recognized advantages of tannin in water treatment are (1) the prevention of scale on sheets and tubes of boilers through what is assumed to be its colloidal action on solids precipitated by heat or through chemical action. This colloidal action of tannin in the prevention of scale causes the lime and magnesia precipitates to be maintained in an amorphour form rather than in the crystalline form, so that they are precipitated as a light flocculent mud that will not form scale or attach itself to the boiler surfaces. Chestnut oak extract is considered the most effective tannin in this respect. A visual demonstration of the effect of tannin on the character of the precipitate can be made by collecting a sample of the sludge and water blown from a boiler and allowing the sludge to settle. It will be found that where tannin is used, the sludge will not adhere to the bottom and sides of the container as it will where tannin is not used. Neither will it cake nor pack, but will maintain a certain fluidity that permits it to be removed readily by blowing.

Handbook No. 3, on boiler-feed-water conditioning, published by the United States Bureau of Mines, contains some interesting information on the effect of organic substances on sludge formation. It is stated that these organic substances dissolved in boiler water are considered to have a more or less colloidal state. It is explained that their action is similar to that of gelatin in the water. The theory expressed is that the particle of incipient scale may precipitate out on the colloid particle instead of on the boiler surface and that the gelatinous particles may bring other particles together to form a sludge. Heretofore the amount of organic material required to produce the desired result has been largely a matter of trial, with close observations of the characteristics of the sludge. Recently-conducted research has shown, however, that it is possible to determine the amount of organic material required to produce the desired results with individual waters.



Figs. 4 and 5—Showing Respectively the Effect of Use (left) and Non-Use (right) of Tannin in Treated Water

To illustrate the widely varying characteristics of tannins and tannin extracts in their effects upon the precipitates that occur during the treatment of water, reference is made to Figs. 1, 2 and 3. As has been stated, certain results can be obtained with certain tannins or combinations of tannins that cannot be duplicated with others. The figures illustrate the results of laboratory tests that were being made to determine what tannin or blends of tannins will be most effective in the treatment of a given water. The plates, one of brass and one of steel for each of the experiments, show clearly just what happened. Figure 1 shows that the combination of tannins used in this test had no effect in reducing the deposition of scale. Another blend of tannins, Fig. 2, gave different results, for while it permitted scale to form without restriction on the steel surface, it prevented any deposits on the brass surface The test shown in Fig. 3, made with still another blend of tannins, was successful, since no scale or crystalline deposit was formed on either the steel or the brass surface, all precipitates having been thrown down in the form of sludge. All of these tests were conducted with the same water and under identical conditions, except that the blends of the tannins were different for each case.

They Also Control Corrosion

Another advantage of the use of tannins is that (2) in the control of corrosion through the absorption of oxygen, according to Buswell, Speller and others, the removal of oxygen from the water is more effective in completely preventing corrosion than any other treatment. Investigations extending over 85 or more years have shown that all tannins have a decided affinity for oxygen, especially in the presence of alkalis (Bunsen 1857, Watt 1868, Beilstein 1925). Study of the absorption of oxygen by Fager and Reynolds (Industrial and Engineering Chemistry, vol. 21, 1929) shows that practically all of the commercial tannins have a marked affinity for oxygen when in solutions of sufficient alkalinity. Chestnut oak and quebracho have the highest value in the amount of oxygen removed, while spruce showed the lowest of those examined. They found that the amount of oxygen removed increased very rapidly when the amount of alkali in the alkaline tannin solution was increased up to a certain point. This increase tapered off with the further addition of alkali until material differences in the alkalinity of the solution were maintained, when the solution showed no further increase in its oxygen-absorbing power.

Again, (3) tannin has a tendency to retard chemical reactions until the water has entered the boiler, and thus prevent the incrustation of feed water lines, injectors, and checks. It also prevents the precipitates from carbonates or temporary hardness from becoming crystalline in form and adhering to the interior surfaces of the pipe lines, injectors and checks. Figures 4 and 5 illustrate the condition of two injector tubes taken from two switch engines which were using the same treated water and were operated for the same period in the same yard. Figure 4 is from an engine that was being given the correct dosage of tannin. It will be noted that this tube showed no evidence of scale or other deposit, while the tube shown in Fig. 5 is from an engine that was receiving no tannin with

(Continued on page 980)

Railways Foster Air Transport*

Canada could not today have its widespread network of efficient air carriers except for the help and experience of parent rail lines in providing ground services

By C. H. Dickins

Vice-President and General Manager
Canadian Pacific Air Lines

THE last war, just as this one, was a driving force in enlarging air activities. With the cessation of hostilities, the whole air problem was reviewed at the Peace Convention and there was drafted for the first time an International Air Convention to which Canada subscribed. About the same time the Canadian Pacific Railway secured an amendment to its charter from the Dominion Parliament in March, 1919, giving it the right to own and operate aircraft within and without Canada. The combination of these two events centered attention on the civil air industry in the Dominion and brought it within the field of government supervision. As a result, the Air Board Act was passed June 6, 1919, providing for the regulation of civil aeronautics and thus was born Canada's commercial air business.

A year later, in 1920-21, the first use of commercial aircraft was made in Canada in freighting materials to serve Fort Norman oil wells on the Mackenzie river just below the Arctic Circle. Unfortunately, the two aircraft selected for this pioneering project met with considerable operating difficulties. But a start had been made and man's curiosity was at last aroused by the possibility of northern commercial flight. In this particular regard I might note in passing that today Fort Norman is the site of the vast $140 million "Canol" project where oil wells and a pipeline are being developed to supply the airfields and military vehicles throughout the great defense area of the North Pacific region. Today's large transports on this route between Edmonton and Norman Wells are a far cry from the almost primitive type of aircraft used on the first flight down the Mackenzie in 1921.

What may justifiably be the first serious attempt to establish regular passenger, mail and freight services took place three years later in 1924. In that year the Laurentide Air Services in Quebec carried 1,004 passengers, 15,000 letters and telegrams, and 78,000 pounds of freight into the newly staked Rouyn gold fields.

From this date onward commercial aviation forged ahead by leaps and bounds in the northland. In 1926 the late James A. Richardson, one of Canada's most far-seeing and adventurous men, who had implicit faith in the nation's future, and particularly its northern destiny, provided the funds to erect the first corporate structure in Canadian commercial aviation, known as Western Canada Airways. Tribute must be paid to Mr. Richardson for his wholehearted effort to keep Canadian aviation in Canadian hands so as not to allow it to come under the domination of outside interests who were quite active at this time. As one writer has so ably put it, "Mr. Richardson believed that the contract for carrying Canadian government mails should not only be carried out by Canadian pilots but by companies owned and operated by Canadians. James Richardson was a Canadian, first, last, and all the time."

Later Western Canada Airways, in addition to its mining traffic, expended into the business of flying furs and fish and opened up large and profitable markets for these products. The airplane also made accessible large areas favorable for minerals. and in 1930 Gilbert La Bine discovered and staked the Eldorado radium and silver mines in the Great Bear Lake area in the Northwest Territories, now the British Empire's greatest source of radium.

Traffic Varies in East and West

Small mail routes were later developed in eastern Canada—such as the route between Montreal and Toronto, Quebec and Seven Islands, Moncton and the Magdalens, and the ship-to-shore summer service based at Rimouski. Thus in 1930 there were in Canada two major operators, Western Canada Airways in the west and International-Interprovincial Corporation in the east, both with approximately the same mileage. The eastern company had little or no "bush" and mining work. Likewise the western company had little inter-city mail, but rather was flying from railhead into outlying districts. The two were merged into Canadian Airways in 1930. The whole structure rested on a base of air mail contracts and commercial flying, and was struggling with limited financial backing and traffic revenues.

It was at this time that Sir Henry Thornton and Sir Edward Beatty, presidents respectively of the Canadian

* Abstracted from an Address to the Montreal Railway Club.

National and Canadian Pacific railways, discussed the possibility of having Canada's two great railway systems take an active interest in aviation. It was agreed that both railways should invest $250,000 in Canadian Airways. In this way the two major transport companies took their first short steps in aviation, and, even if it was only a token investment, it had a real meaning for the industry in the years to come.

Then came the depression, and the need for rigid governmental economy, a condition which practically wrecked the air industry in the 1930's, as air mail contracts were radically slashed and the companies were left with relatively costly equipment, designed for mail carriage, and little traffic of this type to support operations. These relatively depressed conditions prevailed generally for the next few years but a new and important trend took place between 1935-37 and plans were made and practically completed for the formation of a transcontinental airline to be operated jointly by the two railways. For reasons which are generally known, and need not be discussed at this time, Trans-Canada Air Lines finally emerged in its present form.

C. P. R.'s Holdings Rapidly Expand

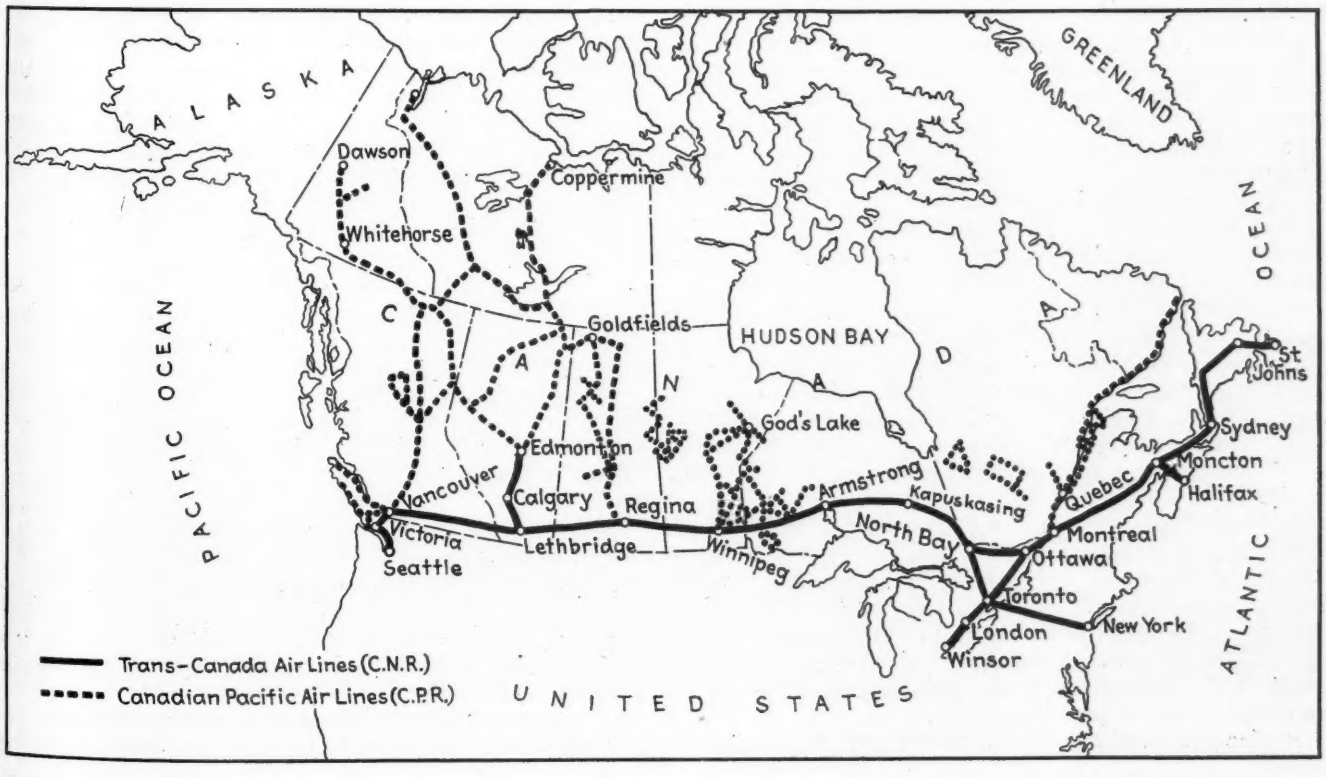
Soon after this the Canadian Pacific Railway commenced studies of its own in connection with air transport and in 1939 completed a survey of the privately-owned airline situation in Canada. From this date onward the company extended its interest in commercial aviation and early in 1942 Canadian Pacific Air Lines was formed. In entering the air field both Canadian National and Canadian Pacific are in the van of the world's railways, and are a long jump ahead of surface carriers in other countries. In fact, it can be said that the development of rail-air operation in this country is one of the most interesting experiments of any which has been attempted in present-day transportation.

Whatever the future may hold for air expansion, it is certainly a fact that air travel is a relatively costly form of transportation, although we hope it will become much cheaper in the days ahead. However, I can assure you that it will be a long time before air transport services seriously affect railway revenues. In the field of passenger traffic it would seem that a considerable volume of the long-haul traffic will naturally be diverted to air carriers. It is also a fact that, by the very nature of the time-saving, the airplane itself creates new traffic which would never have gone by rail at all. The expansion of local air services throughout the country will also promote new air traffic. Aerial tourist routes are also on the list for post-war operation.

Turning to the question of air cargo, and this subject has been somewhat extravagantly discussed, I think you will find that there is still plenty of room for sound and substantial air cargo development without in any way reducing rail freight earnings, on a major scale. Volume carried by air now is infinitesimal and, at best, it will be a considerable time before much more than certain types of high-class express can be tapped on the basis of present air schedule and rates. At the same time I believe that, if the airline business is to develop into a major transportation medium, it must follow the same pattern of surface transport in finally maintaining its economic existence on the basis of being primarily a freight mover.

In any discussion of future possibilities of commercial air cargo it should be remembered that in the case of the air lines, unlike surface carriers, less than 5 per cent of the total revenue is derived from freight shipments and 90 per cent from passenger, just almost the reverse of rail carriers. At the same time this almost untapped potential air freight may finally emerge as the record maker for the air lines. Perhaps the future development of commercial air cargo rests largely on one vital issue—cost. Present commercial air freight

Efficient Dominion-Wide Air Transport Service Has Resulted from the Enterprise of Canada's Two Large Railways



rates in the United States are around 80 cents a ton-mile, well above the rail express charges of from 11 cents to 18 cents a ton-mile, and a long way from the rail freight figure of less than 1 cent per ton-mile.

New Business Rather Than Competition

While Canada has long been one of the world's major carriers of commercial air cargo, particularly as a result of northern freight flying, it is also true that little of this traffic has moved in competition with the east-west rail business. A review of the type of materials carried by Canada's railways will also indicate that, beyond all doubt, it will be a considerable number of years before air carriage will make any disastrous dent in surface transport revenues. In 1941 revenue freight carried by both Canadian railways was divided into the following classifications:

Types of Freight	*Tons*	*Percent of Total*
Mine products	41,882,338	35.7
Manufactures and miscel.	31,586,355	26.9
Agricultural products	25,736,666	21.9
Forest products	12,392,042	10.7
Animal products	2,715,990	2.3
L. C. L. freight	2,886,108	2.5
	117,199,499	100.

There is the fact that air cargo will develop new types of products to move by air alone and will also open new markets altogether inaccessible to surface transport. Air cargo will also mean reduction of insurance charges, lower packaging costs, and will develop smart merchandising techniques by the suppliers carrying smaller inventories. With good air cargo service, buyers will be able to fill any shortages. Financial papers, jewelry, and photographic supplies will also increase in volume in air cargo. The American manufacturers are also working on special aircraft to handle an increasing volume of perishable products and one firm estimates that for each decrease of ½ per cent per ton-mile in costs it can double its volume.

Better Ground Organization Needed

Air cargo will require new loading devices, refitting of plane interiors, special standards and light-weight cargo containers and the like. Inter-line traffic movement will have to be speeded up. The problem in air cargo will not be to increase the speed of the carrier but to increase the efficiency and speed of the ground organization, and there is a great deal of work to do in this field yet as it has hardly been scratched.

The transportation of foodstuffs may develop a specialized form of air cargo. Dehydrated vegetables take from one-third to one-sixth the freight space required for similar products processed in other forms. Dehydrated foods are also relatively non-perishable. Recently the equivalent of 200 cattle, amounting to 5 tons of dehydrated meat, was carried by airplane. The weight of the 200 cattle alive was about 40 tons. Certain air lines in the United States are now working on the movement of dehydrated banana shipments and another on sea foods.

It is true that the speed of air transport will bring the foreign market almost as close as the domestic. Merchandising by air also calls for new business habits. At the same time, air cargo will not ruin the railways, but it will likely make a bigger pie rather than divide up the present one. Air cargo is the biggest question mark in the aviation business and likewise the biggest potential source of post-war traffic.

A glance at statistics for surface transport movements in Canada, with those of the railway-controlled air services, makes both interesting and instructive reading. They demonstrate beyond all doubt the relatively minor place of air transportation in the total Canadian situation at the present time. They likewise indicate the opportunity for the building of a sound and widely extended air transport service without jeopardizing the main sources of railway revenue. Generally speaking, these figures both discount over-exaggerated claims of the air ruining the railways and likewise support the claim for a reasoned development of air traffic.

	1942 Rail Traffic C. P. R. and C. N. R.	*1942 Air Traffic C. P. A. and T. C. A.*
Freight	126,000,000 tons	5,000 tons
Passengers	44,000,000	165,000
Mail	250,000,000 lb.	4,000,000 lb.

Even in the field of mail carriage, where it is generally assumed that all first-class mail which makes a time saving will go by air, it might be pointed out that the 250 million pounds of mail carried by Canada's railways consists of first, second and third class mail and parcel post; of the 22,000,000 lb. of first class mail, only 4,000,000 lb. is presently moving by air. While it is possible that there will be developed air parcel post in the post-war period, it is still a fact that it is doubtful whether planes will carry second and third class newspaper and printed material mail until rates are considerably reduced.

Railway Sponsorship Aids Development

The future of air transport services will primarily depend on the carriers rendering economic transport service to the shipping and traveling public. Somehow, I feel there is often too much discussion as to the comparative time differences and the like between rail and air transport. Basically, there must be enough traffic to set up an air line on its own feet regardless of what the railway hauls in competition with it. In other words air lines will, to a large extent, be complementary to surface units.

I doubt whether either of Canada's air lines could have achieved the prominent place they have in the air transportation industry today without many of the services being provided, either directly or indirectly, by the parent rail companies. As you all know air transportation is not yet a particularly profitable enterprise and costs necessarily have to be closely controlled. Traffic density in Canada, except in certain cases, is also relatively less heavy than in the case of the large American operators. This being so, we have drawn upon the experience and facilities of the parent rail companies to a large extent to provide us with services, which in their own right would be quite costly if operated by the air lines alone, but which, as part of the railway, represent only a minor fraction of the total expense. I think you will agree that insofar as we carry the prestige and name of our great railway systems to the air, it is also a fact that, regardless of our relative size as air carriers, we must reach the high standards of the parent companies so long established in surface transport.

In fact, the manner in which the air lines have been treated by their railway parents in Canada, proves beyond all doubt that transportation service in its broadest form is what these companies are offering the Canadian people. It is really a misnomer to call them railway companies—they are transportation systems using all types of vehicles.

Canada enters the post-war air age in a most fortunate position. Geography has favored the Dominion beyond

almost any country in placing it astride the northern hemispheric air routes. The war has forged together a large air industry and trained personnel and the country will possess in peace time a reserve of men and materials of the finest type. With both of Canada's great transportation systems in the business, and with their financial resources and widespread experience of all types of transport, the Dominion stands ready to profit to the greatest possible extent in its air expansion.

As you undoubtedly all know, the air business at present is regionally divided into two broad sections. One is the east-west Trans-Canada Air Lines controlled by the Canadian National Railways. The other is the north-south Canadian Pacific Air Line network controlled by the Canadian Pacific Railway. The two form an integrated air transport system capable of expansion to meet any post-war needs.

I feel convinced that there is plenty of room within and outside Canada for the operation of both of the nation's railway-controlled air lines. It seems to me that if Canada as a nation hopes to be in the forefront of those charting the future destiny of the world she will have to use, to the utmost, the air services of both transportation systems.

Steam-Diesel Switching Ratio Is 3 to 1.6

TWO 1,000-hp. Alco-G. E. Diesel-electric road switchers that have been working 'round the clock at the Chicago, Milwaukee, St. Paul & Pacific's "Pig's Eye" classification yard in South St. Paul, Minn., since May, 1943, have released four older 2-8-2 steam locomotives for road service. Normally used in branch-line freight service, the two Diesel-electric units were assigned to the busy Pig's Eye yard to handle greatly increased switching requirements.

The yard has nineteen tracks (30 to 100 cars) for classification, six tracks (100 to 110 cars) for receiving and transfers, three rip tracks (15 to 25 cars), one dump track (45 cars) and one running track to the roundhouse. All east and west freight, as well as trains to Duluth and the south, are classified or made up in this yard. It has a capacity of more than 3,500 cars a day and at present is handling from 2,500 to 3,000 cars a day. The two Diesel-electric road switchers work the lead and do all the switching in the east end of the yard. The longest haul is ¼ miles from the receiving track to the classification tracks, on which about 35 cars are hauled.

On Transfer Runs

On occasions, the road switchers are used for the 10-mile transfer run to Minneapolis. For example, one day it was a troop train to Minneapolis consisting of eighteen 80-to-85-ton cars. On the return trip to St. Paul, which is down grade, the drag was 2,500 tons of freight. On another occasion, the return load was an 8,000-ton ore train. The run to Minneapolis has seven miles of grade, maximum 1.2 per cent, and the road switchers will haul 1,300 tons up the grade without a helper.

The locomotives have 1,600-gallon fuel tanks, and are taken to the roundhouse only once a week for about 30 minutes to take on fuel oil and sand. All other items and daily inspections are taken care of during the 20-minute lunch periods for the crews. Once a month the units are out of service 8 hours for the monthly inspection. Fuel oil consumption averages 5 gallons per hour—840 gallons per week. Four Diesel-electrics handle 12 of the 28 tricks in the Pig's Eye yard—10 steam locomotives handle the other 16 tricks.

One of the Alco-G. E. 1,000-Hp. Locomotives at Work in the Milwaukee's Pig's Eye Yard

If There's No Water, Kill the Fire

Instructions posted on separate bulletin boards on the Milwaukee are educating locomotive crews to the dangers of carelessness in observing the water level

By J. E. Bjorkholm

Superintendent Motive Power, Chicago, Milwaukee, St. Paul & Pacific

"IT was found that the accident was caused by overheating of the crown sheet due to low water." This statement is usually the conclusion reached by the inspectors of the I. C. C. Bureau of Locomotive Inspection who are always called upon to investigate and report their findings in connection with these accidents, commonly referred to as boiler explosions or crown-sheet failures.

The whys and the wherefores, however, in most instances remain a mystery as those who could throw some light on the subject usually become fatalities and only through circumstantial evidence painstakingly gathered by these trained investigators can some probable cause be construed. In many instances probable contributing factors are mentioned; in others, no such probable factors are found and the boiler and all its appurtenances are found to be in good condition, but still the discolored area of the crown sheet gives indisputable evidence as to the cause of the accident.

The Bureau of Locomotive Inspection, since it was established, has done excellent work in reducing these accidents. The railroads likewise, through improved material, certain safety devices, better design and maintenance practices and through safety-first activities, have also put forth great efforts to prevent these catastrophes which leave in their wake death and sorrow and painful injuries, frequently resulting in life-long disabilities, to say nothing about the usually large material loss involved; yet they occur.

What is the answer? In this article the writer will attempt to approach the subject from an angle, in his opinion, heretofore not fully explored. It is hoped that the expressions herein set forth may cause thoughts and reflections that in themselves may bring forth actions tending to reduce, if not entirely eliminate these wholly unnecessary calamities.

The matter of boiler explosions is a large subject. Numerous and voluminous reports have been written; much costly research has been undertaken; and I believe it is generally recognized that, from the point of view of proper material, proper construction and dependable appurtenances, the boiler as a pressure vessel is surrounded by the necessary factors of safety if properly operated. The human element entering into the question, however, has, in my opinion, not been given the consideration it deserves and that feature will be discussed in this article.

I think it is generally recognized that few other types of boilers are subject to the abuse and difficulties surrounding the operation of locomotive boilers. It is to the everlasting credit of the men who design and build them, to the men who maintain them and to the men who operate them, that with few exceptions they function remarkably well.

Many factors, however, conspire to cause difficulties occasionally in the proper maintenance of a safe water level, such as inferior coal; leaky flues; defective valve and cylinder packing; mechanical troubles with water pumps, injectors and stokers; foreign matter in the coal; boilers foaming, etc., resulting in difficulties in maintaining the required steam pressure, causing the locomotive crew to "trade water for steam," to use a common expression. These are the common causes for the trouble that eventually leads to disaster. None of the above explanations, however, constitute any reasonable excuse for permitting the water to reach an unsafe level and lead to an accident. However, the engineman and fireman at times are willing to take a chance with low water even though as experienced men they are, or at least should be, fully aware that in doing so they are playing with dynamite.

There is only one thing to do when the water begins to play "peek-a-boo" in the basement instead of being in the second or third story of the waterglass and that is to pay strict attention to the lower gage cock and, when the water is no longer in evidence, to extinguish the fire with the first means at hand; if the water bucket or hose is not available the fire can always be dumped into the ashpan or whatever means must be resorted to. The result may be a temporary tieup of the railroad, but it is far better for the engineman to say good morning to his superintendent or master mechanic and explain what occurred than be called upon to render an account of his earthly doings to St. Peter.

Too Much Familiarity

It is an old saying that familiarity breeds contempt. This is applicable to many enginemen. In their service as such, in many cases stretching over scores of years, they have taken many chances with low water and, unlike betting on the horses in most cases they have won, but eventually the time comes when they take one chance too many. This is no criticism of the enginemen. It is only natural that, having operated a locomotive for years, often times perhaps under trying conditions, they have had many occasions when things looked pretty dark but finally succeeded in correcting whatever trouble was confronting them and the situation was cleared up. This, together with the ingrained pride of most enginemen to bring their trains in on time and the apathy of most of them to make a statement, or as they usually express it, "to write a letter," causes them to try to keep going even when the odds seem overwhelming against them. In most cases they win; in many cases they lose, but in some cases they are not left alive to tell the story of what happened. In this connection, so that I may be properly understood, may

I say that I have the highest regard for enginemen who are resourceful and willing to take a chance, except when taking a chance with low water.

It is not the intention in the foregoing to infer that the cause of boiler explosions in all cases is due to enginemen permitting the water to reach an unsafe level and failing to take the only precaution that can be taken under the circumstances. I have merely aimed to elaborate on a cause that, in my opinion, has not been given the important attention it deserves. I do mean, however, that in all the ramifications incidental to this type of accident, the contributions made toward this unfortunate record too frequently is due to the water being permitted to reach an unsafe level without the crew in charge resorting to the only safe preventative, and instead taking a chance beyond a safe margin.

If the lesson can be brought home to enginemen never to take undue chances with low water; that it is far better to extinguish the fire prematurely on a score of engines rather than wait until it is too late on one of them, I am entirely satisfied the conclusions reached at the beginning of this article will be published less frequently by the Interstate Commerce Commission.

Educational Bulletins Found Advantageous

On the Milwaukee, the mechanical management has for a period of years resorted to a method of urgent appeals to the enginemen in the strongest possible terms, never to take a chance with low water, pointing out to them that, if necessary to be safe, it is better to tie up the railroad than ever take a chance with the water level. The medium used is what is known as "Educational Notices" or bulletins, posted on bulletin boards reserved exclusively for that purpose. This method prevents notices of this nature from being mixed with bulletins on other subjects and they become conspicuous in their importance. In these notices, attention is usually called to accidents or difficulties due to low water, whether on the home property or other carriers, pointing out briefly the causes and consequences and then making an urgent appeal never to be guilty of operating a locomotive unless it is positively known that the water level is safe. Locomotive crews are instructed in plain and understandable language to extinguish the fire, if in doubt, even though it may mean temporarily tying up the railroad.

A few quotations are as follows:

"There is nothing new that I can say that has not already been said about the danger of low water. All I can do is to repeat what I have previously said. Don't take any chances with the water in the boiler. Check the water glass, water column and gage cocks together with the firebox and injectors or feedwater pumps when taking charge of an engine and remember that water is consumed at a rapid rate when a locomotive is working. Injectors and pumps might give trouble at times but when they do and should the water get low in the boiler you should extinguish the fire even though you may tie up the railroad before you permit the water to reach a dangerous level. A satisfactory explanation of the trouble with which you may have been confronted will not result in any criticism but if you fail to take these precautions the most serious consequences usually are the result."

"Again let me say don't take any chances with low water. If you have trouble keeping a safe water level take the precaution and extinguish the fire before it is too late. If such precaution will cause any delay, remember that it is better to have a delay on the side of safety than have a more serious delay a little later and perhaps several fatalities with mourning families and friends."

"A reminder: Don't overlook checking the water level in the boiler frequently by trying the gage cocks, blowing out water glasses and water columns and seeing that water glass valves are wide open."

I have always felt that the unfortunate experience of one might be a wholesome lesson to someone else and for that reason we publish, in these notices, unusual locomotive failures or accidents, without identifying the train, locomotive or crews, hoping that by this others may profit.

When Engineman Needs "A Friend in Court"

I am not enough of an optimist to hope that these measures are going to save the Milwaukee entirely from regrettable catastrophes. I am realistic enough to know that as long as enginemen are made of common clay, subject to human frailties, we shall occasionally be confronted with these tragedies. I do know, however, that the assurance given the enginemen that they will have a friend in court, if I may use that expression, has caused them, on several occasions, to kill the locomotive and temporarily tie up part of the railroad before the critical moment when the overheated crown sheet could no longer stand the pressure. Subsequent inspection revealed that had they waited only a few seconds longer, the names of the crew would have been in the obituary column. One incident, not unlike many others except in its detail, might be of interest:

One morning, as I arrived at the office, I found an engineman waiting to see me. His worried look caused me to extend the somewhat discourteous, but in railroading not altogether unorthodox, greeting, particularly to an old acquaintance, "What the hell is riding you?" He then related that the previous evening on a time freight on short time ahead of a passenger train he had decided to run a certain water tank because he felt he had sufficient water to go to another water station where he had a meeting point with another train. By so doing he would reduce the delay to his train which was already late. However, when he was a few miles out of town an air hose broke, stalling the train. As it seldom rains but pours when these things occur, he stalled in a sag and to make a long story short, in his endeavor to get the train going after the air hose was fixed he found himself so short of water that he could not even make the next water tank running light. He related that various attempts he had made to get water into the boiler; they are all familiar to most of us. He tried first one injector and then the other; the fireman then looked into the water cistern and found it as dry as the Congressional Record. The brakeman then cut the engine off and they tried to make the water tank but each mile seemed to be twice as long as ever before and when the lower gage cock began to register dry steam he decided it was time to follow bulletin instructions, come what may. Subsequent inspection showed that he had not killed the fire one second too soon, as several radial stays had started to pull and a small area of the crown sheet had been pretty well baked.

When he was through with his story I told him that it was too bad that he had tied up the railroad, but under the circumstances that was a lot better than blowing up the engine. I told him to go and get a good rest and in the meantime I would get in touch with his superintendent and let him know we were all pretty fortunate we did not have a worse mess on our hands than the temporary tie-up had caused.

One of the most important functions of a crew when

taking charge of a locomotive should be to examine the interior of the firebox for leaks; check the water in the tender; try the injectors and water pump, if the engine is so equipped; water glass, water column and gage cocks. After satisfying themselves that everything is in order, there is nothing more important than being on the alert by frequently observing the correct water level while on the road or during a day's work in the terminal. If the water glass is observed frequently, the water glass drain valve and gage cocks used frequently and careful notice made that the waterglass is not sluggish, there will never be boiler explosions caused by low water provided, of course, that the crews act according to what the indications may be and do not play with dynamite.

Crews Must Cultivate Safety Habit

The most important duty of road foremen and traveling engineers is to observe, in riding locomotives, that the crews carefully observe these important functions. In traveling over the system, I frequently enjoy a ride on the locomotives and if it is noticed the crews do not religiously observe the water level I take the crew as well as respective traveling engineers to task for not having instilled this important habit in their minds.

We all know from experience that there is always a possibility of misreading the water level. There may be some strange reflection from the light illuminating the glass causing a false level to be read; there may be a defective gasket causing a false level in the glass; or there may be a pocket in a pipe; in short, there may be many things making a false level appear; therefore, it is of the utmost importance that the water glass and gage cocks be tried frequently.

Water in the boiler disappears rapidly when the locomotive is worked to capacity and it does not take long for the water to reach an unsafe level when not replenished at the rate it is being consumed. There is no more important function for motive power officers and safety supervisors than to continuously urge the enginemen never to fail to be on the alert in observing a safe water level.

How a locomotive crew's lack of alertness in this respect caused a near-serious accident was called to my attention a few years ago. I was aroused from a pleasant sleep in a Pullman one night by the porter who handed me a message that a certain freight engine had had a crown sheet accident not far away. I dressed immediately and at the next station obtained more particulars. After this I secured the services of a section foreman and his section car and proceeded to the scene of the accident some miles away. During the night, prior to the accident, some new snow had fallen and for several miles approaching the point where the accident had occurred, there was unmistakable evidence in this new fallen snow that the injector was not picking up the water. Had the crew watched the water level carefully they would have noticed that it disappeared below a safe level. As it was, they were not aware that anything was wrong until a score of radials pulled and sent the locomotive crew and head brakeman to the hospital. Fortunately they all recovered, but their injuries might easily have been fatal.

The time element between the disappearance of the water in the bottom of the water glass and the critical moment when the accident actually occurs depends of course, on many factors, such as construction of the boiler, temperature of the fire, capacity at which the locomotive is being worked, nature of the track and whether or not any water is going into the boiler. On the supposition that no water enters the boiler, very few minutes, surely not to exceed five or six, would permit the crown sheet to become red hot and at this temperature the tensile strength is reduced to only a few hundred pounds per square inch and the inevitable is bound to occur.

To sum it up, everything that can possibly be done in the matter of design and maintenance of the boiler and boiler appurtenances to keep them in the best possible mechanical condition, should always be considered the most important duties of those who have these matters in charge. After that is done, then crown sheet failures can only be prevented by enginemen always being on the alert in observing the water level. If for any reason a safe water level cannot be maintained, then there is only one thing to do and that is to kill the fire —the sooner the better.

What Tannins Do in Treatment of Locomotive Boiler Water

(*Continued from page 973*)

its water. This injector was removed because it failed by reason of the heavy scale that had been deposited on it.

Strange as it may seem, (4) tannin will also prevent the incrustation and stoppage of cold-water lines that are carrying either treated or untreated water, when precipitation is caused by chemical reactions, by preventing the precipitates from becoming crystalline in form. In combination with other chemicals, it has also been found effective in removing scale already formed. Tannins serve still another function, for (5) under certain conditions, lignins contained in tannins will prevent intercrystalline corrosion or cracking of boiler sheets. This form of failure, however, results primarily from stress of the metal, from leakage at the seams or from high concentrations of alkaline causticity. Schroeder states in his summary of the experiments on Intercrystalline Cracking of Boiler Steel and Its Prevention, Bureau of Mines Bulletin 443, that "quebracho has prevented cracking in laboratory tests with the embrittlement detectors at pressures up to 500 or 600 lb. In this work, high concentrations of inorganic salts, such as sodium sulphate, may interfere with the protection. On the other hand, quebracho has effectively prevented cracking in plant tests up to 650 lb., even where high concentrations of inorganic salts were present." Tannins are valuable in controlling the causticity of boiler water by retarding the development of caustic produced by the soda ash used in treatment.

There is no Substitute

No other substance or combination of materials will entirely take the place of tannin or combine the several functions of tannins in boiler-water treatment. To accomplish these essential functions, even in part, would necessitate the use of a number, if not all, of the following chemicals: (1) Sodium hexametaphosphate; (2) sodium sulphate; (3) sodium nitrate or sulphite cellulose; (4) aluminum salts; (5) starches; and (6) organic or inorganic acids. It is entirely possible that the use of substitutes for tannin will require vital materials in their production that will far more than offset the advantages derived from the present restrictions in their use. This applies particularly to chestnut tannin, for which there is no adequate substitute.

War Effort Has Been Imperiled by Niggardly Equipment Doles

So says the Truman Committee's Transportation Report —Industry's resourcefulness is commended; government "confusion" is assailed; more effort by all is demanded

"THE importance of transportation, as a war activity, has not been adequately recognized."

So begins the long-awaited report on transportation of the so-called Truman committee, which was submitted to the Senate December 15 by Senator Mead, Democrat of New York, chairman of the subcommittee on transportation of that committee, officially designated the Special Committee to Investigate the National Defense Program.

The 27th in the series of reports this committee has made to the Senate since its creation, many of which have been generally appraised as lucid, cogent and constructive comments on various phases of the war effort, the current 42-page document summarizes the spectacular wartime record of the transportation industry—taking up in turn the railroads, trucks, buses, air lines, barges and pipe lines—and at the same time points out instances of inaction, confusion and ineffectiveness on the part of certain government agencies in their association with these achievements of private industry.

Forecasts of the freight and passenger traffic which the different agencies of transportation probably will have to handle in 1944 are included in the report, with the comment that "in many cases, the volume estimated is determined not by the demand but by the estimated limit of capacity. Fortunately, this is not the case with respect to railroad freight traffic."

According to the committee, rail revenue ton-miles in 1944 should exceed 1943 by 2 to 5 per cent, which would mean between 750 billion and 770 billion ton-miles. The 1943 traffic handled by intercity trucks was estimated at 47 billion ton-miles, and the estimates for 1944 forecast no increase. On the contrary, it was estimated that the capacity of the trucking industry will decrease, if anything, because little new equipment will be available, while present equipment steadily becomes less serviceable. For two years, the report added, volume of freight handled by trucks has been steadily going down. Pointing out that 1943 rail passenger-mile figures will exceed 1942 by about 58 per cent, the committee reported that forecasts indicate a further increase of 15 per cent in 1944, and a similar percentage increase in bus traffic, a prediction based on capacity rather than demand.

The Enemy Has Been Outdone

Upon the basis of the evidence before it, as summarized in the report, the committee informed the Senate that "our transportation system is essentially sound. It has performed an almost unnoticed but indispensable service to our war effort. Labor and management of transport companies and shippers, with the co-operative supervision of the Office of Defense Transportation and the Interstate Commerce Commission, have met and have overcome unforeseen obstacles, which our enemies predicted would cause our war production to collapse. To date, we have outdone the enemy on the transportation front. We have proved the superiority of co-operation and freedom over regulation imposed from above through force and fear. One of the enemy's chief weaknesses, despite the confiscated facilities and enslaved manpower at his disposal, is the insufficiency of this transportation."

Pride in this achievement is no excuse for neglect of the facilities that have made it possible, said the report. "The unprecedented increase in the volume of traffic has approached dangerously near the limit of the capacity of our transportation facilities. Replenishment needs of transportation agencies in terms of manpower, materials, and facilities are modest in comparison with total war requirements and entail practically no public financing. Failure to provide for those needs would be to run the risk of break-down. A transportation collapse would be disastrous to the war effort."

Among the conclusions drawn by the committee from its investigations of the transportation situation, emphasis was put on the necessity for further co-operation between the carriers, shippers and general public in reducing wastes in transportation and in obtaining a still higher degree of utilization of all its facilities. "Our wartime experience," the report said, "indicates the importance of maintaining a sound and healthy railroad system as an instrument of national defense. The production of adequate numbers of locomotives, freight cars, rail and other railroad facilities is, therefore, imperative."

Facilities Have Been Stretched

The committee recommended that, instead of hoping that the transportation system would somehow succeed in carrying both the peacetime and the wartime load, and on such grounds sharply reducing the programs of the transportation systems for obtaining new equipment, "constant and adequate attention" be given to their needs, so as to insure their ability to stand the strain that a long war might induce.

"Management and labor deserve commendation for the record they have achieved in stretching our transportation facilities to meet the increased load," the committee declared in that section of the report dealing with the record to date. Our transportation system, developed through competition, is the best in the world, it pointed out, and when we entered the war there was a substantial surplus of reserve capacity which was employed by the application of measures suggested by the unhappy experience of the last war, in more effective use of all facilities, "with the same result as if more equipment had been added."

But these moves, though important and essential, have

not been fully adequate to meet the situation, the report explained. "Any policy which fails to provide for maintenance of transport capacity in excess of anticipated demands is shortsighted and invites disaster. If we permit our transportation facilities, for any substantial period of time, to be exceeded by transportation needs, we are face to face with congestion and breakdown. In such a case, our only recourse would be for the government to take over the transportation systems or the establishment of a priority system, or both." The committee dislikes either. "The flow of traffic must remain free and rapid if we are to increase, or even maintain, our production and combat tempo," it asserted. "Any other course means the postponement of victory and the increased expenditure of lives and material. A margin of safety in reserve capacity over any foreseeable demand must always be maintained. Transportation is so vital and a break-down would be so disastrous that we cannot afford to run the risk of even approaching the breaking point."

Developing this conclusion further, the report said, "the transportation burden is increasing. Equipment is wearing out. Manpower is growing scarcer. Good as our transportation system is, it is folly to assume that there is no limit to the strain it can withstand. . . . If we act now, an impending crisis may be avoided by means much more satisfactory than any measures which could be taken once the crisis is actually upon us. Essentially, this means that we must either reduce the burdens upon our transportation system or provide new equipment, or adopt a combination of both."

The report pointed out in this connection that plans for providing new equipment must be made long before it is to go into use, particularly in time of war, when the time lag is greater than normal because of other demands on production facilities and manpower, "and because of the delay incident to obtaining decisions and action by the numerous government agencies involved."

One section of the report dealt specifically with the railroad equipment situation. "The railroads have received during 1942, and will receive during 1943, only a part of the equipment which they estimated they would require," it pointed out. "Shortages in necessary railroad locomotives, cars, and other facilities are most definitely a limiting factor upon the nation's war effort. This is particularly true because the increased load of traffic in the war years has fallen most heavily upon the railroads."

The committee recommended that "immediate attention" be given to increasing the production of locomotives for *domestic* railroads. "The shortage of locomotives," it declared, "is one of the most serious limiting factors on railroad traffic. Although 937 locomotives were on order by Class I railroads on June 1, 1943, and required this year, a failure to deliver needed material has resulted in a production far below that scheduled. War Production Board priority ratings were such that locomotive manufacturers could not receive the necessary materials at the times and in the quantities required to maintain scheduled production."

This situation has been greatly improved recently, the report pointed out. However, it went on to say, for many months "locomotive production was impeded by lack of a clear understanding as to which government agency had the responsibility for expediting the production program which had been approved. Confusion existed between April 3, 1943, when the War Production Board took the position that the Office of Defense Transportation was the government agency responsible for obtaining delivery on equipment, and August 9, 1943," when the W. P. B. decided that responsibility rested with its own Transportation Equipment Division. "Since that time, steps have been taken by the War Production Board designed to expedite the production of locomotives. . . . Recently, the priority rating was upgraded so that locomotives for domestic use are now equal to the military priority. Progress is now being made, but the delay resulting from the confusion has been detrimental to the equipment program."

Turning to the freight car situation, the report disclosed some of the difficulties experienced by the railroads in meeting their need for additional equipment. On April 4, 1942, the roads had orders outstanding for about 68,300 freight cars, involving an expenditure of more than $200 million, it indicated. "Late that Saturday afternoon, without previous notice, the War Production Board issued its order L-97a stopping construction of freight cars, except as thereafter authorized by the War Production Board. Continuation of production was permitted as to certain of the cars then on order, viz. 19,000 cars remaining unbuilt out of the 36,000-car program authorized January 1, 1942.

As to the remainder of the cars on order April 4, 1942, this stop order presented the railroads with a serious problem.

Car Building Abruptly Halted

"Several hundred carloads of material were in transit. Millions of dollars had been borrowed on the trust obligations. The railroads were suddenly left with the interest-bearing obligations and without many of the cars ordered. The War Production Board had issued priorities for the materials. It made no effort to stop the flow of materials and had issued the construction stop order without notice. The railroads had to negotiate the transfer of the borrowed trust funds for other uses, or recall the outstanding certificates and stand the losses. The car builders had millions of dollars worth of steel and other materials on hand. It has taken over a year to work off the bulk of this material into other uses essential to the war effort. Recent relaxation of War Production Board restrictions on the use of steel and other materials will now release the remainder.

"For the first six months of 1943, the War Production Board authorized the construction of 20,000 freight cars. The construction was pro-rated among the car builders irrespective of their existing car orders then financed by the railroads, and each car factory was limited to construction of only two types. As a result, production was delayed for several months before the railroads discovered which builders would be permitted to build what types of cars."

In addition to the 1943 program, freight car construction is now authorized as follows, according to the report: 1944, first quarter, 10,282 cars; second quarter, 10,150; third quarter, 6,704; fourth quarter, 2,140; 1945, first quarter, 1,140. Another section of the report is devoted to an analysis of the age of freight cars in service, showing that about two-thirds are over 15 years old. "If we expect to maintain present operating efficiency, replacement of much of this older equipment will be necessary."

While it is not desirable to attempt to build a large number of new passenger cars at this stage of the war, the committee remarked, "our railroads should be making plans now for the replacement of much of this equipment with new and better equipment. Prompt action along these lines, as soon as materials and manpower become available, will ease the transportation situation and also prove very helpful in re-establishing our civilian economy. . . . Actual relief will not be felt for some time,"

and meanwhile "the public will have to accept the discomforts of rail passenger travel as one of the burdens of the war. . . . Also, the War and Navy departments should eliminate unnecessary movements of troops in training and cut down their frequency and distance where possible."

How Necessary Expansion Was Impeded

Turning to other material requirements of the railroads, the report went on to say, "failure to obtain the necessary quantities of rails and materials as needed has added to the operating difficulties of the carriers." After explaining that larger tonnages of rail will be made available in 1944, it added that "the supply of ties available for 1944 will be less than needs by a substantial amount. The lumber situation has become critical through military demands, through Office of Price Administration price limitation discouraging lumber operations and through local labor shortages."

While the experience of the railroads in obtaining government approval of various essential construction projects has definitely improved, still more can be done to facilitate authorizations for yard, terminal, signal, siding, track, and necessary building construction, the report stated. "The carriers have not been able to keep abreast of known needs. Shortage of materials and difficulty in obtaining the approval of various divisions and committees within the War Production Board . . . has impeded the expansion of these facilities. Obtaining such approvals involves a multiplicity of conferences and repeated explanations of the same needs to different divisions and committees."

Discussing operating changes effected under the spur of the emergency by the railroads in cooperation with shippers, the I. C. C. and the O. D. T., the report mentioned General Orders ODT 1 and ODT 18, and the diversion orders issued by W. F. Kirk under his authority to divert or reroute transcontinental carload traffic from the line of any railroad which in his opinion cannot currently accept and move such traffic to any other road less congested and better able to move it. Over 100 such diversion orders have been issued, it stated, and many more diversions have been accomplished voluntarily.

Lading Damage Minimized

As a result of heavier car loading there has been some increase in damage claims, the committee found, but the increase of 20.2 per cent in dollar value of damage in the first six months of 1943, as compared with 1942, was accompanied by an increase in freight revenue of 23.7 per cent, indicating, it pointed out, that improved stowing and bracing methods have contributed to minimizing the damage that otherwise might have resulted from heavier loading.

The report praised the work of the Army and Navy traffic control sections. "The volume of traffic handled has been tremendous," it said, "For example, from 10 to 12 per cent of the entire rail ton-mile load moves on War Department bills of lading. A further substantial volume of Army goods moves on commercial bills of lading converted to government bills of lading after delivery."

Reviewing at some length the possibility of effecting still other operating economies, either by the railroads or by the shippers, the committee remarked that some of these proposals have occasioned controversy, particularly those involving undue circuitous routing or so-called cross-hauling. "The extent of undue circuitous routing has probably been exaggerated," the report stated. The O. D. T.'s waybill studies showed that on May 27, 1942, "the total miles traveled by all the cars on that date was only 11 per cent more than if only direct routes had been used." Moreover, it added, "a limited amount of circuity is highly desirable. It creates flexibility and permits the flow of a larger volume of traffic than if direct routes only were available to the shipper." The report did specifically condemn solicitation of traffic for a circuitous route where a direct route is open, however, and it recommended that the I. C. C. and the O. D. T. conduct occasional test checks to discover to what extent excessively circuitous routing has been curtailed by voluntary action of railroads and shippers."

"Cross-hauling should be studied thoroughly before orders are issued," the committee declared. Rigorous application of a zoning system might decrease the railroads' ton-mile load by 4 per cent, it explained, but it pointed out that the "shock to our domestic economy and distribution and marketing system" would probably outweigh any saving so effected. Instead of putting such measures into effect, it suggested, "it would be much better to make increased efforts to extend and improve the facilities of the railroads."

In its discussion of the manpower problem, the committee suggested that, in the higher skilled positions, and where seniority rules are effective, the railroads have been relatively fortunate in retaining their personnel, although in their less skilled and lower paid categories the turnover has been high. An estimate that they will require a net increase of about 14,100 workers to meet their 1944 needs was attributed to the O. D. T. The report went on to recommend that further efforts be made to eliminate "wasteful labor restrictions" and predicted that the savings that could thus be realized would be substantial. Action by the I. C. C. in suspending certain train-limit laws and union agreements limiting the length or tonnage of trains was commended. "More can and should be done along this line to relieve the labor shortage," it declared.

The equipment problems of other transportation agencies were analyzed in equal detail in the report. The committee again found the W. P. B. at fault in its handling of a minimum program for replacement parts and the manufacture of new equipment for the motor trucking industry, and in the latter connection it revealed a suspicion that the War Department and other government agencies that have been given first priority for their truck programs may not have exercised all possible restraint in estimating their possible requirements. In any event, it asserted, of 7,500 heavy trucks approved by the W. P. B. for production for civilian use during the last half of 1943, only 450 will be built this year, and the program will not be completed before June, 1944.

In presenting the report to the Senate, Senator Mead remarked that "locomotives, freight and passenger cars, rails, trucks, buses and tires wear out. We must be prepared either to replace them or to do without the transportation which they could provide. . . . The committee found that the manufacture of transportation equipment was being neglected in favor of the manufacture of war material." As the committee's investigation of the transportation situation progressed, however, he added, "many important steps have been taken to provide additional new transportation equipment. . . . But further and constant attention should be given to the problem if we expect the transportation system to be adequate to meet all the important demands our war effort will make upon it in 1944."

Railroads-in-War News

Traffic Management Seeks Draft Status

Selective Service is asked to give some recognition to this essential work

In protest of Selective Service Occupational Questionnaire, Form 311, which was used by the government to obtain a nationwide inventory of occupational skills, the Associated Traffic Clubs of America (Indianapolis, Ind.) has expressed "keen disappointment" that this form makes no inclusion of the "vocation or profession recognized as 'traffic management.'"

Addressing a communication to the Selective Service System in Washington, the Association calls attention to the thousands throughout the United States who are engaged in this line of endeavor, and "earnestly urges" that industrial traffic management be recognized as a vocation in the establishment of personnel classification by Selective Service Headquarters, the U. S. Employment Service, the National Roster of Scientific and Specialized Personnel, the Office of War Information and the War Manpower Commission.

A four-page article, accompanying the letter, details the work of the traffic manager and cautions that his job "not be confused with the position of one who looks after vehicle or street traffic."

"These traffic managers," it explains, "are trained and experienced in the application to transportation, of the Interstate Commerce Act, the various state regulatory acts, the United States Maritime Act and Acts supplementary thereto; and in the interpretation and application of decisions of the Interstate Commerce Commission, of state commissions and of the courts to matters within their provinces."

It further advises that the skill of the traffic man in applying such acts and decisions to physical transportation "is invaluable to secure the most economical use of the freight services and freight equipment available." He produces benefits to the country as a whole by "intelligent interpretation and use of freight tariffs and classifications, O. D. T., O. P. A. and W. P. B. orders governing various services."

In further substantiation of the importance of their duties, the communication observes that "the services of expert traffic managers in the employ of industrial concerns, carriers and government agencies have been drafted by the director of the Office of Defense Transportation in order to organize, direct and co-ordinate transportation activities in wartime." The Association reveals that many of these men have been placed in administrative jobs in O. D. T. in Washington, in regional branches and as members of advisory committees. That the Army and Navy recognize their value is evidenced by their requests for volunteers to serve in these branches.

The letter concludes with a request for "early and favorable consideration."

November Export Traffic

There were 133,537 cars of export freight, excluding coal and grain, handled through United States ports in November compared with 75,767 cars in November last year, or an increase of 76 per cent, according to the Association of American Railroads.

Export grain unloaded at these ports totaled 4,772 cars, compared with 3,259 in November, 1942, or an increase of 46 per cent.

In addition, the railroads handled 781 carloads of coastal freight in November, compared with 657 in the same month last year, or an increase of 19 per cent.

The total of 139,090 cars of export and coastal freight, excluding coal, handled through the ports in November represented an average daily unloading of 4,636 cars, the highest on record. It slightly exceeds the previous high average of 4,592 cars established in September this year.

C. N. R. Reclamation Plants Nearing Capacity Output

To keep pace with present heavy war traffic on the Canadian National, two large reclamation plants at Point St. Charles, Montreal, and Transcona, Winnipeg, are now "nearing the capacity stage" in their output of waste and oil journal-box packing, according to E. R. Battley, chief of motive power and car equipment.

"A statement just compiled covering the first ten months of this year shows that a total of 6,547,200 lb. of waste and oil journal-box packing has been reclaimed, an increase of 1,827,910 lb. over the corresponding period of 1939," revealed Mr. Battley, "and, so far, this year's supply is sufficient for approximately 600,000 re-packings."

He further disclosed that "no journal box packing is permitted to remain in service for longer than 15 months for freight service and 6 months for passenger equipment."

Westinghouse Building Power Trains to Follow Allied Forces

The Westinghouse Electric & Manufacturing Co. is building 10 "roving power trains" of 5,000 kilowatts each for use in captured cities where large municipal power plants have been destroyed. In addition, this company is producing 24 1,000 kilowatt rolling powerhouses of three cars each for use in small communities.

Vinson Holds Firm as Ops Call Strike

Set December 30 for walkout as Mediation Board intervenes; Non-ops win a round

Appearing before the House committee on interstate and foreign commerce on December 16, in the wake of the railway operating brotherhoods' announcement of their intention to go on strike December 30 and of the passage by the Senate by a 74-to-4 vote of the Truman resolution to override his action in the non-op wage increase controversy, Economic Stabilization Director Fred M. Vinson carried on his almost single-handled battle in defense of his interpretation of his duty, under President Roosevelt's hold-the-line order, in railway wage disputes.

Announcement that 97 per cent of the operating employees had voted to strike rather than accept the "Little Steel formula" wage increase of four cents per hour awarded them by an emergency board functioning under the wartime operations of the Railway Labor Act came from Cleveland, Ohio, on December 15, coupled with a strike call to be effective on 25 per cent of the nation's railroads at 6 a.m. December 30, and on an additional 25 per cent on each of the three following days.

Hard on the heels of the strike call came an announcement from Washington, D. C., that the National Mediation Board had proffered its services in the emergency, acting under the provisions of section 5 of the Railway Labor Act, and that a meeting of the board and representatives of the carriers and the operating brotherhoods had been set tentatively for December 20 in Chicago. As reported in *Railway Age* of December 11, page 942, the ops' leaders had an informal conference in Washington December 3 with the board's chairman, Dr. William M. Leiserson.

In announcing their strike call, the chiefs of the Big Five operating unions asserted that they were "thoroughly aware" of a strike's "immediate effect" but, they nevertheless contended, their action in the long run "will redound both to the military success of the war and the present and post-war welfare of the common people of this nation."

"It is a strike against inflation for the privileged few and deflation for the many," they went on to say "Railroad workers do not believe that swollen railroad earnings, larcenous profiteering, soaring prices, and depressed real wages are necessities of the war effort.

"They inhere in the nature of things only when Congress passes bad laws and ad-

ministrators interpret good ones wrongly and execute them badly. All the frantic and cheap appeals to patriotism issued by the Offices of War Mobilization and War Stabilization cannot obscure this issue. If there is any lack of patriotism in this country, the public may look for it, not among the war workers in industry and transportation, but in Washington and in the swivel-chair propagandists of the government itself.

"It is a matter of official record that the basic wage rates of all but substandard wage earners have been practically frozen for more than a year. It is a further fact that prices have continued upward.

"This state of affairs cannot be permitted to go unchallenged. If labor does not challenge it a complete demoralization of the home front will be the result.

"The members of these five railroad operating Brotherhoods are now issuing the challenge with firm resolve. We share with all patriotic citizens the view that a strike is to be deplored, but we assert that the underlying causes which move hundreds of thousands of loyal citizens to vote a strike are also to be deplored. We hope responsible government officials will attend to the causes before they go too far in condemnation of the effect.

"We do not believe that American boys are fighting to defend politicians in office and profiteers in business and industry who are plundering their fathers and mothers and wives and children while they are away in uniform. When they return and find that this is what they have been fighting for, they will express their anger and resentment in a manner that will make any strike in protest now look like a minor incident."

Basing his argument largely on the provisions of Presidential Executive orders designed to implement the Stabilization Act of 1942, Director Vinson, himself a former member of the House, told the House committee that every consideration of prudent statesmanship, of the separation of powers, of general legislative policy, of constitutional propriety, of economic wisdom, and above all, of equal justice under law, dictates the rejection of the Truman resolution. Only a misunderstanding of the issues involved or the political power and might of those who demand its passage can dictate a contrary view, he asserted.

Denying that the sliding-scale award of the Special Emergency Board was a Vinson plan to terminate the non-op wage dispute, the Stabilization Director said, "If the advocacy of equality and adherence to law is so unusual that it must be termed a Vinson plan, I am not unhappy to receive the accolade." The standards of the hold-the-line order apply to all workers, and "so long as I have the power to say so, they shall apply without exception. You are asked to say that they shall apply to all save non-operating railway workers."

A general industry-wide across-the-board wage increase, in any amount, for the non-operating employees is violative of the wage stabilization program enacted by Congress, Mr. Vinson argued. Under this program, he continued, the only standard which permits an increase of this character is the Little Steel formula, and the non-ops do not claim they are entitled to a Little Steel formula increase. It has been asserted, he went on to say, that this is a railway case and that the chastity of the Railway Labor Act must be protected. The Railway Labor Act sets up procedures for settling disputes and has nothing to do with wage stabilization, he pointed out. When in this matter all of the machinery of the Railway Labor Act was not utilized, the administration "stepped into the breach" and "settled the matter," he said, but the Brotherhoods have concluded that the standards of wage stabilization are too rigorous for them, and they have come to Congress for special treatment.

Questioning the contention that no threat of inflation exists in the straight eight cent increase, because freight rates would not be raised, Mr. Vinson told the Committee that "unfortunately," the Interstate Commerce Commission, and not the proponents of this legislation, passes on freight rate adjustments. Even if the Commission should decide that no rate increase was necessary, he pointed out, the railroads might "with some propriety" urge that Congress do for them what it has so generously done for their employees.

Normal legislative procedures were accelerated as the House committee began hearings on December 13 on the Truman resolution, which, as passed by the Senate on December 9, was substantially identical in language with Representative Crosser's resolution to override Director Vinson's disapproval of the agreement made in August by the unions and the carriers, providing for a straight increase of eight cents per hour. Bert M. Jewell, chairman of the group of non-op leaders handling the wage negotiations, appeared at the committee's first session, and also on the following day, to present substantially the same outline of the situation, as the unions view it, as he and other union spokesmen gave the Senate subcommittee early in November, as reported in *Railway Age* of November 13, page 759.

On December 14 the House committee also heard the carriers' views on the proposed legislation, as presented by J. Aronson, vice-president of the New York Central and counsel of the Carriers Conference Committees. Mr. Aronson pointed out that the railroads are not parties to the controversy between the unions and the government stabilization officials, and that they have entered into an agreement with the non-ops to increase their wages by eight cents an hour, an agreement they are willing to carry out when government consent is obtained to do so. Whether that consent comes from Congress or an administrative agency is not for the railroads to say, he added.

Mr. Aronson referred also to an added complication that had entered into the controversy, namely, the action last week of the non-ops unions in invoking the services of the National Mediation Board, under the provisions of section 6 of the Railway Labor Act, to mediate an alleged dispute between them and the carriers over the effectuation of the sliding-scale wage increase award of the so-called special emergency board which was "not disapproved" by Director Vinson.

It was understood that the railroads had sought clarification of their duty, under the law and the executive orders fixing procedures under the Stabilization Act, with respect to the sliding-scale award, and that Director Vinson had made known his conviction that compliance with the terms of that award by the carriers was mandatory. The unions, however, when advised of this situation confronting the roads, are understood to have repeated their refusal to accept the four-to-ten cent wage increase, and to have insisted again upon execution of the terms of the agreement negotiated in August to make the eight cent raise effective.

In view of the stabilization director's opinion, however, the conference committees are reported to have advised the railroads to comply with the provisions of the special emergency board award. As the carriers moved to put this advice into effect the unions countered with a request for National Mediation Board action on the ground that this procedure of the roads would constitute a change from their binding wage agreements with the unions. This invocation of mediation proceedings serves as a barrier to effecting the sliding-scale wage increase, it was pointed out, since the Act provides that, under such circumstances, "rates of pay, rules, or working conditions shall not be altered by the carrier until the controversy has been finally acted upon . . . by the National Mediation Board."

The board has agreed to appoint a mediator to act in the case.

When the Truman resolution to put Congress on record for the straight eight cent increase came before the Senate, following its unanimous recommendation by that body's interstate commerce committee, no effort was made by the Administration's Senate leaders to hold the line for Director Vinson. Among supporters of the measure was majority leader Barkley, Democrat of Kentucky, who made one of the principal speeches in its favor. The four negative votes came from Senators Bailey of North Carolina and Ellender of Louisiana, Democrats, and Ferguson and Vandenberg, Republicans of Michigan. Senator Byrd, Democrat of Virginia, who was paired with Senator Hawkes, Republican of New Jersey, announced that if he were at liberty to vote he would have voted "nay." All other non-voting senators whose positions were announced would have voted "yea," including Chairman Wheeler of the committee on interstate commerce.

Senator Ellender opened the debate with a warning that the Senate was about to take action "on a proposal that may eventually doom our stabilization program." Adoption of the resolution would be "the first serious breach in the President's hold-the-line order," he said, adding that "Judge Vinson is the supreme court on the question at issue."

Senator Truman disagreed. He took the position that the non-ops "were exempted from Judge Vinson's jurisdiction in the law itself," and pointed out that the proposed wage increase would not be passed on in the form of higher rates. Whereupon Mr. Ellender insisted that if Congress fixed up the non-ops, such action "would no

doubt open the door to other special groups who also desire wage adjustments."

Senator Johnson, Democrat of Colorado, broke in to criticize the sliding-scale increase approved by Judge Vinson as something which would throw established differentials out of line. He and Senator Truman pointed out that the straight eight cent increase was supported by all non-op unions, including those whose members would get more than eight cents under the special emergency board proposal which Judge Vinson accepted. Senator Ellender suggested that he might like "to have the mentality of some of these men examined," for "it seems unreasonable for almost 500,000 to prefer an increase of eight cents when they could obtain from nine to ten cents instead." Meanwhile it seemed to Senator ("Cotton Ed") Smith, Democrat of South Carolina, that the labor-management agreement should be put into effect; he saw no justification for its having been upset by "certain parties who don't know beef from bullfoot."

Although he did not think the wage matter should be before Congress, Senator Reed, Republican of Kansas, was nevertheless in favor of dealing with it. He denied that any question of inflation was involved, pointing out that the difference between Judge Vinson's sliding-scale plan and the straight eight cent raise would be only $18,000,000 a year. As he had done in the separate expression he filed as a member of the interstate commerce subcommittee which considered the resolution, Senator Reed again expressed his fears that, unless Congress breaks the impasse, the President "will be taking over the railroads for operating purposes within the next three or four or possibly five weeks."

He denied, however, "not only on behalf of myself but also on behalf of the railroad brotherhoods," that the Senate was "under compulsion." He then went on to outline briefly the history of the case, suggesting something of the off-the-record story told by the non-op leaders after the subcommittee's public hearings. "I have listened," he said, "to the story 'off the record' of these men telling us of the weird, almost unbelievable and incredible circumstances surrounding these negotiations; how they went back and forth, how at three different times they were given to understand that this adjustment would be accepted, and they accepted it and entered into a contract."

Mr. Reed did not undertake to say that the straight eight cent raise was a better adjustment than the Vinson formula. It was enough for him to be convinced, as he was, that the Senate had power to act in passing "a declaratory statute." Meanwhile the Kansan wanted to say that he had never dealt with a "more reasonable body of men" than the non-op leaders. He asserted his belief that they had a right to come to Congress.

Senator Reed had no doubt that the unannounced result of the recent non-op vote was "overwhelmingly in favor of a strike." He thought that, if a strike date is set, the President "will have to take over the railroads at once," and "God forbid that we should ever have government operation of railroads again." Thus his call for favorable action on the resolution "if we are to avoid an impending disaster." Moreover, he also pointed out, the government, if it took over the roads, "would still have the wage dispute on its hands." He went on to ask if there were any reason to believe that the Administration would handle it "any more happily or successfully than it has handled the wage dispute in the case of the coal mines."

Some Senators raised a question as to whether adoption of the resolution would set a precedent upon which the train service employees could rely in a later effort to obtain through Congress a larger increase than the four cents per hour recently awarded them. Senator Johnson did not think so. He pointed out that the four cents was an emergency board award, just as was the eight cents involved in the resolution. The Senate, he said, "could very well uphold the two emergency boards." And Senator Reed said he would oppose Congressional action on behalf of the ops, for "they could not make a case like the one now before us."

Pacific Northwest Board Expects 2.5 Per Cent Increase in Traffic

Commodity committee reports made at the quarterly meeting of the Pacific Northwest Advisory Board at Longview, Wash., on December 8, anticipated an increase of 2.5 per cent in outbound carloadings during the first quarter of 1944, as compared with the same period of 1943. The largest increase is expected in the loadings of lumber and forest products, which will amount to an additional 8,022 carloads. Fir lumber will require 6,415 more cars and fir logs 1,996 cars. At a luncheon meeting, Lt. Col. C. W. Coil was the guest speaker.

The Transportation committee of the Board, during its consideration of the box car shortage, described this shortage in the Pacific Northwest as so serious "that it threatens the continued production of flour mills and may seriously affect our food supply." This committee recommended that in the interest of improving car efficiency, greater attention be given to the prompt release of cars, the number now being held beyond the free time being 20 per cent.

Materials and Prices

The following is a digest of orders and notices of interest to railways, issued by the War Production Board and the Office of Price Administration since December 6:

Aluminum—The issuance of Supplementary Order M-1-i, as amended, on December 4, eases restrictions on the use of aluminum to permit its employment in the manufacture of buses, and also for the fabrication of collapsible tubes.

Brass and Bronze Valves—A program calling for redistribution of 1,200,000 new brass and bronze valves having a value of approximately $3,500,000 through normal trade channels has been announced by the WPB. Redistribution will be carried on through manufacturers of new valves, who will be called upon to review lists of surplus valves reported to WPB.

Lead—The position of lead, while not critical, requires careful watching, according to the consensus of the last meeting of the Lead Producers Industry Advisory Committee, the WPB reported recently. Several producers pointed to the steadily increasing withdrawals from stockpiles, which, if continued, will be cause for alarm.

While undoubtedly there will be considerable decrease in the demand for lead in the small arms program for 1944, there will be compensating increases in demand for other essential purposes, such as batteries, cables, tetraethyl lead, etc. Most of these items go into the munitions program.

Southern Pine and Hardwoods—Southern yellow pine and certain hardwoods were placed under strict allocation control on December 2, by Conservation Order M-361, covering Southern yellow pine, and M-364, covering the following hardwoods: oak, ash, hickory, yellow birch, hard maple, rock elm, and beech. Shingles, lath and cross ties of all the species affected are exempted from the provisions of the orders. This action is designed to conserve supplies of these woods for direct and indirect war uses and to prevent their use for non-essential purposes.

Provisions of both orders are substantially the same. Producers are permitted to sell only (1) to the Central Procuring Agency of the U. S. Corps of Engineers and contractors and others designated by it; (2) to other Federal agencies, Lend-Lease, and their contractors and suppliers; and (3) upon specific authorization by WPB.

A producer, as defined in the orders, means a sawmill which processes and sells as lumber 25 per cent or more of the lumber it receives. Mills producing less than 10 M. b. m. per average 8-hour day during the second half of 1943, or currently producing less than this amount per day are exempted. Retail sales by yards and by mills in areas not served by retail yards are permitted without restriction; so also are sales from one producer to another.

Purchase orders which would increase inventory beyond a 90-day supply are prohibited, except when specifically authorized by WPB or where necessary to make up a minimum carload.

In addition to these controls, the orders provide that WPB may allocate specific quantities or percentages of the restricted lumber to specified persons or for specified uses; control deliveries without regard to preference ratings; direct or prohibit production; and take other allocation action necessary to fill war and essential civilian requirements.

Purchase orders by or for the Central Procuring Agency, other Federal agencies, Lend-Lease, and their contractors must be accompanied by certifications; application for WPB authorization of purchase orders is made on Form WPB-2720. Certification may be used only for purchase orders to fill specific contracts; it may not be used for inventory replacement, for which Form WPB-2720 is required.

There is heavy demand for the woods covered by the orders, the Lumber and Lumber Products division states. Southern yellow pine is used chiefly for war construction and for boxing and crating. Chief war uses of the hardwoods are for ammunition and ordnance boxes; dunnage lumber for shipping materials overseas; Army truck bodies and naval landing craft. About 50 per cent of the total production of Southern yellow pine and the specified hardwoods is affected by the orders.

M-361 and M-364 are effective January 1, 1944, but lumber in transit on that date may be delivered to its ultimate destination.

Prices

Furnaces—The recent nine per cent increase authorized in manufacturers' sales of steel warm-air and cast-iron furnaces applies *only* to the furnace proper and does *not* apply to any auxiliary equipment, OPA announced on December 2. The manufacturer may increase his lowest list price on a complete furnace oil-burner unit, a stoker-furnace unit or a gas-furnace unit only on the selling price of the furnace itself (including casing and grates) even though his price sheet lists ceiling prices on the complete unit.

Gasoline and Fuel Oil—Amendment No. 143 to RPS No. 88 (Petroleum and Petroleum Products) effective December 1, provides cents-per-gallon maximum prices for gasoline and distillate fuel oils shipped from refineries in inland Texas and adjoining counties in Arkansas and Louisiana. Three groups of ceiling prices are established, depending upon the ultimate destination of the shipment.

Hinges—Amendment No. 3 to MPR No. 413 (Hinges and Butt Hinges), effective December 13, provides a 5 per cent upward adjustment of maximum prices for sales of hinges and butt hinges by manufacturers and resales by jobbers.

GENERAL NEWS

P.R.R. Is Not After Transport Monopoly

Seeks only "accessorial" connection with other carriers to serve public better

The Pennsylvania was among the first of the railroads to suggest the public advantages of co-ordinating several forms of transportation under a single ownership—so that the shift from one agency to another would be made with maximum ease when economy suggested its wisdom. In making this suggestion, neither the Pennsylvania nor anyone else connected with the railroads ever proposed, or had in mind, that an agency offering one or more forms of transportation should be permitted to enjoy a monopoly, regional or otherwise, in all or any of them—this being the misrepresentation of the railroads' position which is currently being widely diseminated by those who wish to have the rail carriers barred completely from participation in air transportation; and who would also, force them to abandon their operations on the highways.

To set the record straight on railroad policy regarding participation in other forms of transportation, M. W. Clement, president of the Pennsylvania, made a statement to its stockholders on December 13 as follows:

"The policy of the Pennsylvania Railroad is to perform a complete transportation service by rail, with such accessorial services as are necessary to give complete, efficient, low cost transportation, to the best interests of the public.

"The Pennsylvania Railroad has no desire to become a monopoly. It neither seeks to dominate rail transportation nor does it desire to dominate transportation in other fields.

P. R. R. Pioneered Airlines.—"The Pennsylvania Railroad was one of the originators of transcontinental air service, but today it is not financially interested in any air lines.

"The Pennsylvania Railroad was one of the originators of good bus service. Its present day interest in bus transportation is a half ownership in the Pennsylvania Greyhound System, a system that is operated by its own management, with routes confined to the territory served by the Pennsylvania Railroad.

"As to trucking service, the policy of the Pennsylvania Railroad is to perform, either by ownership or by contract, such collection and delivery service as is necessary for it to render a complete transportation service to the public and such accessorial service as will enable it to attract business to its rail lines. It has no desire to go into the general long-distance highway service.

"The only interest the Pennsylvania Railroad has in water navigation is to provide such accessorial services as are necessary to perform its ferry service and its lighterage service in connection with its rail lines.

Railroads Don't Fear Competition.—"The Pennsylvania Railroad is confident that rail transportation will meet successfully and survive the competition to be expected in the future. It is sure that no other form of transportation can supplant railroad transportation unless unintelligent regulation, excessive subsidies to competitors, or inequitable taxes shall overburden the railroads and deprive them of their opportunity. Considering their remarkable performance in this, the country's hour of transportation need, it is unthinkable that the American people will not see to it that the railroads get fair play in the years ahead."

New Haven Tells Public Its Air Line Ideas

The New York, New Haven & Hartford—in full page advertising in newspapers in its territory—discusses the subject of "our place in the air future of Southern New England."

"Whoever is to serve a community," says the advertising message, "must know its people, how they live, where they work and play, who ship goods, who own and operate hotels and industries. This knowledge of Southern New England *we have*. . . . We also have a ready-made ground organization *available without subsidy.*".

The advertising goes on to say that the company wishes to coordinate the interests of its rail and highway systems with an established air line, believing that in such coordination the public interest in efficient service and lowest possible costs will be best advanced. Readers are reminded that such coordinated transportation works best in war, and will also work best in peace.

Wins $200,000 Verdict for Loss of Arm and Leg

A jury in a Superior Court at Chicago, on December 14, awarded Tracy J. Cropper a judgment for $200,000 against the Pennsylvania for injuries suffered on April 8 when he fell under a freight car while working in the company's yards at Columbus, Ohio. He had been employed by the railroad 18 days when the accident occurred. He lost his left leg above the knee and his left arm above the elbow.

Commission Revises Its Milwaukee Plan

Provides for distribution of $52 million in cash and adds sinking funds

To meet the requirements of a recent Supreme Court decision, the Interstate Commerce Commission has revoked its order of June 4, 1940, prescribing a plan for the reorganization of the Chicago, Milwaukee, St. Paul & Pacific, and has issued in its place the second supplemental order in that proceeding, in which certain adjustments of the commission's previous plan are set forth, the chief effect of which is to afford compensation in cash and in revisions in the allocation of new securities to those classes of creditors whom the court found entitled to such compensation for the loss of their senior rights under the plan.

The terms of the Supreme Court's opinion were outlined in *Railway Age* of March 20, page 544. In general, the commission's 1940 plan for the road's reorganization was upheld, particularly that part of it which eliminated the old company's equity holders from participation in the reorganization, but the issue of compensation for loss of seniority was referred back to the commission for solution.

In brief, the 1940 plan reduced the road's capitalization and fixed charges, eliminated the old stock, and substituted system mortgages for so-called division mortgages. Total capitalization was limited to $548,533,321 and fixed and contingent interest and other charges to $12,532,528 per year, in contrast to the old company's annual fixed charges of $23,739,279. In addition to undisturbed equipment obligations amounting to $33,322,999, the plan provided for a $58,923,171 issue of first mortgage 4 per cent bonds, for two series of 4½ per cent contingent interest general mortgage bonds aggregating $108,678,780, and for $111,347,846 of 5 per cent preferred stock and 2,131,475 shares of non-par common stock. A provision of $2,500,000 annually for additions and betterments was given priority over contingent interest charges.

The plan also provided for a new lease between the new company and the Chicago, Terre Haute & Southeastern on terms more favorable to the Milwaukee, on condition that substantially all the lessor's bondholders agreed to the new terms, or alternatively for disaffirmation of the lease. The plan was described more fully in *Railway Age* of March 2, 1940, page 405.

By its second supplemental order, the commission has directed that the following adjustments be made in the 1940 plan:

(*Continued on page 992*)

Elect Patterson I.C.C. Chairman

1944 term goes to former head of Bureau of Safety and rail union member

The Interstate Commerce Commission on December 14 announced that Commissioner William J. Patterson has been elected as its chairman for the calendar year 1944, succeeding Commissioner J. Haden Alldredge, whose stated term expires with the present year. Commissioner Rogers, who by seniority in service was next in line for election as chairman, was unable to undertake the added duties of that office, Secretary W. P. Bartel added, since he is serving also as assistant director of the Office of Defense Transportation.

Upon the appointment of Joseph B. Eastman, then chairman of the commission for a three-year term, to the directorship of the O. D. T., the commission reverted to its former practice of choosing a chairman for a one-year term in rotation from its membership, and Mr. Alldredge was selected on that basis to serve in 1943, after Commissioner Aitchison had filled out the unexpired portion of Mr. Eastman's term and continued to serve to the close of 1942.

Chairman-elect Patterson was appointed to the Commission by President Roosevelt in July, 1939, after having been a member of its staff since September, 1914, when he was made a safety appliance inspector, following employment as a railroad fireman, brakeman, switchman, and conductor. His appointment to the commission came after the Senate had indicated its unwillingness to confirm the nomination of Thomas R. Amlie, former "Progressive" Congressman from Wisconsin, to succeed Commissioner Balthasar H. Meyer, whose term expired at the end of 1938. Mr. Patterson's name was one of several recommended to the President by the Railway Labor Executives Association as acceptable to the unions because they felt that he appreciated their problems.

Mr. Patterson was born at Neenah, Wis., on June 4, 1880, and entered railroad service at the age of 16 as a call boy in the Wisconsin Central's superintendent's office at Stevens Point, Wis. In 1898 he was employed as a brakeman on the St. Paul division of the Chicago, St. Paul, Minneapolis & Omaha, and in the spring of 1899 as a locomotive fireman on the New Mexico division of the Atchison, Topeka & Santa Fe.

In the summer of 1899 Mr. Patterson returned to Wisconsin to work on the Wisconsin Central as a brakeman and switchman until the spring of 1902, when he was promoted to conductor. He continued in that capacity until the summer of 1906, when he was employed as a conductor on the Northern Pacific, in which position he worked on the Fargo, Dakota and Seattle divisions of that road until his appointment in 1914 as I. C. C. inspector of safety appliances. In August, 1918, he was promoted to assistant director of the commission's Bureau of Safety, which position he held until March, 1934, when he was appointed director of the bureau to succeed W. P. Borland. Since he has been a member of the commission he has continued to keep in touch with the work of the bureau, and the commission's accident investigations are referred to him for consideration and disposition.

A. R. E. A. to Meet in '44

The board of direction of the American Railway Engineering Association has decided, by letter ballot, to proceed with the annual meeting of that organization at the Palmer House, Chicago, on March 14-16, 1944. This action has been taken in accordance with a suggestion from C. H. Buford, vice-president of the A.A.R., that the divisions of that organization proceed with their annual meetings next year.

C. P. R. Chief Honored by McGill University

D. C. Coleman, chairman and president of the Canadian Pacific, has been named to the board of governors of McGill University, and once again this honor is accorded a head of the C.P.R. The late Sir Edward Beatty, whom Mr. Coleman succeeded as chief executive of the railway, was chancellor of McGill for 22 years.

President Coleman has long been identified with educational interests, in addition to his prominence in transportation. In 1932, he received an honorary LL.D. from the University of Manitoba, being elected to the board of governors a year later, and thence to the chairmanship. In 1934, he was appointed a trustee and member of the corporation of Bishop's University, Lennoxville, from which he has received the honorary degree of D.C.L.

South Beginning to Question "Discrimination" Talk

"Alabama," weekly news magazine published at Birmingham, records the unusual case of a writer on a well-known local newspaper who had often in his column complained of "discrimination against the South." This writer recently had the candor to admit that, when he had written about this "discrimination" he hadn't really known what he was talking about; so, pending deeper study, he has retired from the "rate-revision front."

The same magazine article quotes Alvin Vogtle, traffic and sales manager of the DeBardeleben Coal Corporation, and one of the South's energetic educators on freight rate questions as confessing that he, too, accepted the opinion that the rate structure handicaps the South—until he took the trouble to inquire into the underlying facts.

Other prominent and thoughtful Southerners who are beginning to question the ready-made opinion on "discrimination" are also cited in the article, which concludes that the example of the newspaper writer—who had decided to retire from partisanship on this issue until he had mastered the facts—might be a good one for other Southerners to follow.

Reject "Directives" on Discrimination

Roads call Committee proposal unrealistic; dispute its jurisdiction

Sixteen of the railroads upon which the President's Committee on Fair Employment Practice recently served "cease and desist" directives concerning alleged discriminations in the employment of negroes have joined in a letter informing the committee that they "cannot comply" with the terms of the directives. In addition, they submitted that the committee "was and is wholly without constitutional and legal jurisdiction and power to make and issue the directives," so that they "are without legal effect."

As reported in *Railway Age* of December 4, page 909, these directives gave the railroads and seven railway employee unions 30 days from November 18 to comply with their provisions, the effect of which was to require the unions to admit negroes to membership and the roads to employ and promote negroes in and to all positions without discrimination. The reply represented the views of the roads that are parties to the so-called Southeastern Conference Agreement, to the terms of which the committee particularly objected, and of several other roads that received individual directives. It was signed on behalf of the Atlantic Coast Line, Atlanta Joint Terminals, Central of Georgia, Georgia, Jacksonville Terminal, Louisville & Nashville, Norfolk Southern, St. Louis-San Francisco, Seaboard Air Line, Southern, Chesapeake & Ohio, Norfolk & Western, Illinois Central (including the Gulf & Ship Island and Yazoo & Mississippi Valley), and the Gulf, Mobile & Ohio.

The employment relations of these railroads are governed by collective bargaining agreements reached under the controlling procedures of the Railway Labor Act," said the roads' reply. "Any change in those agreements is a matter of immediate and vital concern to our employees of various crafts and classes and to their organizations and representatives, as well as to these railroads. Railroads are forbidden by law to interfere in any way with the self-determination or self-organization of their employees and are entirely without power to dictate to their employees, or to effect by unilateral action, any changes in such agreements. Such changes are controlled by, and can only be accomplished by, the procedures of the Railway Labor Act."

It follows, therefore, the reply asserted, that "it is wholly impracticable, and indeed impossible, for these railroads to put into effect your committee's directives addressed against them. Any attempt on their part to comply with those directives, for instance, to promote negroes to locomotive engineers or train conductors, would inevitably disrupt their present peaceful and co-operative relations with their employees, would antagonize the traveling and shipping public served by them, would substitute conditions of chaos for the pres-

News Department continued on next left-hand page

LIMA LOCOMOTIVES

are meeting the test of WAR

Locomotives are being worked longer and harder than ever in railroad history. Only in this way can the war-time burden of transportation be handled.

Railroad equipment of all kinds is undergoing a supreme test and out of this testing is coming confirmation of the soundness of Lima design and workmanship.

Lima power is standing up to its war-time job.

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED **INCORPORATED, LIMA, OHIO**

ent condition of harmony, would result in stoppages in transportation, and would most gravely and irreparably impair the whole war effort of the country. These railroads cannot assume the responsibility for precipitating such disastrous results.'

So far, the reply pointed out, the roads have been acclaimed by all branches of the government and the armed services for their unprecedented achievement in meeting wartime demands for transportation service. "This accomplishment has been achieved by peaceful and harmonious relations with railway labor and by patriotic and whole-hearted co-operation between these managements, labor, and the shipping and traveling public. We wish it to be clearly understood that any disruption of these peaceful and harmonious relations and of this patriotic co-operation which may result from your committee's directives is not the responsibility of these railroads."

While the roads are ready to confer at any time with their employees to ascertain whether a "more generally satisfactory solution of the racial problems of employment" can be arrived at by mutual agreement, the reply continued, "frankness compels these railroads very respectfully to state to your committee that it is utterly unrealistic to suppose that these railroads and their employees can agree to comply with the breadth of your directives or that problems of such delicacy, controlled and governed by a special act of Congress, can be solved out-of-hand by the fiat of your committee's directives."

Moreover, the letter continued, "a number of your findings and directives against some of these railroads undertake to deal with classes and crafts of railway employees which were given no notice of your charges or hearings, . . . and with practices concerning such classes and crafts as to which these railroads were given no hearing. Manifestly, such findings and directives are wholly lacking in due process of law and for that reason are without legal effect."

In reply to the railroads, Malcolm Ross, chairman of the committee, issued a statement in which he declared that "the question of preventing negro railroad workers from being used by the carriers at their top skills is a war problem of the first order." The record shows, he asserted, a shortage of 850 firemen on American roads "at a time when trained and experienced negro firemen were employed and the carriers were preferring to take on green hands, simply because there has been for years a sometimes tacit and sometimes formal agreement between the railroads and railroad unions to decrease the number of negro firemen and give their jobs to white workers. This is no question of negroes seeking to displace whites. . . . Racial prejudice is not at issue here."

Mr. Ross then said that the committee's hearings—which the unions "chose to ignore," while the roads made what he termed a "perfunctory appearance"—were devoted to "the fireman problem, and the problems of upgrading, job assignments and seniority rights of negroes" in shops and operating jobs, while the roads' reply "makes a bid for public disapproval" of the committee by "viewing with alarm alleged pretensions of negroes to be engineers and conductors. The plain fact is," the committee chairman continued, "that this issue —necessarily covered because complaints were received and no rebuttal offered—is dormant and could remain so if the railroads offer justice to negro railroadmen in the classifications where reason and public policy both urge it."

There is no conflict of jurisdiction over the Southeastern Conference Agreement, Mr. Ross asserted, because "by mutual agreement it can be altered or discarded," and that is what the committee asked the carriers and the unions to do "in conformity with the Railway Labor Act and the procedures adopted by the National Mediation Board. There are," he went on, "extremely serious negro problems on American railroads. The F. E. P. C. did not invent them. It tried, honestly and with the war need for railroad workers in mind, to find out what is wrong and to direct remedial action. . . . Its duty is to prevent discrimination against any worker, whatever his or her race, creed or nationality, who would be an acceptable war worker were it not for preconceived prejudice.

"We may not be able to wipe out discrimination overnight," the committee chairman concluded, "but we can and shall try. . . . The committee's directives are described as being broad. They extend no further than the problem raised. . . . It will take time to raise the structure laid down by the committee's blueprint. Not to start now is to acknowledge defeat."

The combustible elements in this sharp divergence of opinion did not fail to attract Congressional attention. Rumors of an investigation of the committee were heard. The Senate was not in session on December 14, the day following these announcements, but the House heard from supporters of both sides of the controversy.

Representative Marcantonio, American Labor party member from New York, termed the railroads' reply a "sneak attack" on the committee, a misrepresentation of what had been done, and an attack on the fundamental principles of American democracy. He inserted in the Congressional Record the text of a letter addressed to E. E. Norris, president of the Southern, as president of the Southeastern Presidents' Conference, enlarging upon this opinion and asserting that "full consideration of all the facts forces me to state that your letter and the actions of the Southeastern Presidents' Conference which it reflects are wholly lacking in patriotism."

On the other hand, Representative Rankin, Democrat of Mississippi, told the House of his hope that President Roosevelt would, on his return, "clean out this bunch of radicals," the Fair Employment Practices Committee, "which is assuming dictatorial powers never attempted by anybody in this country." Terming the committee a "rump organization," without legal existence, which "never was endowed with the tyrannical powers it now attempts to assume," he asserted it was hurting the war effort, stirring up race trouble in the South, and, by "unlawful meddling" with the railroads and the unions, threatening the transportation system with paralysis."

Truck Load in Texas Now Averages 7 Tons

The average weight of a truck and load traveling in Texas has increased from 9,570 lb. in 1937 to 14,022 lb. in 1943, according to a report made by the Texas Highway Planning Survey. In discussing the relation between load, cost of highway construction and vehicle taxes, the report said:

"It is probable that this condition will be aggravated as soon as trucks with a larger capacity can be obtained by the trucking companies. It is generally recognized that truck traffic does more damage to highway pavements than passenger car traffic does and it is probable that in the near future we shall have to provide much heavier pavements to take care of the heavily loaded trucks, although revenues derived from that traffic will not be materially increased. Since 1937, the revenue of the Highway Department secured from taxes on motor fuel is practically unchanged in spite of the fact that about 50 per cent more cargo is being handled on the highways."

Citrus Authority Dies

C. W. Mann, senior pomologist in the Bureau of Plant Industry, Soils and Agricultural Engineering, and for 38 years with the U. S. Department of Agriculture, died December 3 at his home in San Dimas, Calif.

Mr. Mann, who was educated at Cornell University, was well known to Pacific Coast growers and shippers of perishables as well as to officers of many railways handling this traffic.

Entering the Department of Agriculture in 1906, he was placed in charge of the Fruit Transportation division in the Bureau of Markets in 1917. From 1922 to the time of his death he directed the work of the Bureau of Plant Industry at Pomona, Calif., on the handling, storage and transportation of fruits. He gave especial attention to the refrigeration of California citrus fruits while in transit to eastern markets. The results of these investigations were published recently in a Department bulletin entitled "Stage Icing in the Refrigeration of Oranges in Transit from California."

Coleman Expects Rise in C. P. R. Shipping Operations

D. C. Coleman, chairman and president of the Canadian Pacific, upon his recent return to Montreal from a trip to the Canadian West Coast, revealed that plans for the resumption of the C. P. R. Pacific Ocean shipping trade are well under way. Blueprints of trade restoration involving oceanic and coastal fleets have been worked out, and the job of reconstructing them will begin at the first opportunity. Certain units will have to be rebuilt and ships lost will need be replaced.

In disclosing that designers are now busy

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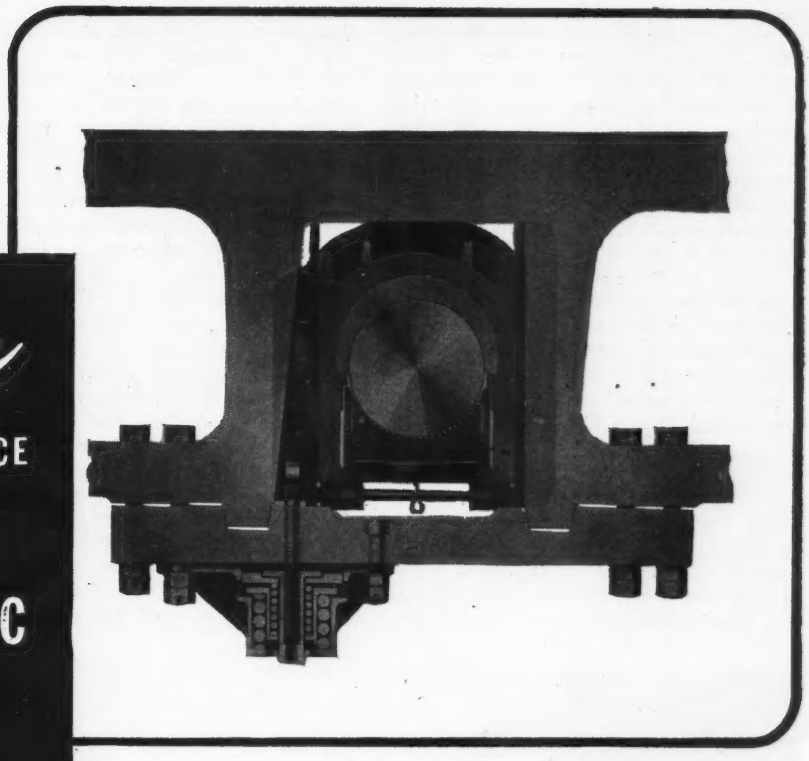


Save Manpower

INCREASE LOCOMOTIVE SERVICE

USE THE

FRANKLIN AUTOMATIC COMPENSATOR and SNUBBER

This important Franklin device releases manpower and increases the availability of your locomotives. Instead of calling for the services of scarce and more needed skilled maintenance men, it compensates *automatically* and *continuously* for all alterations caused by driving box temperature changes, and also dampens the stresses induced by reversal of forces.

By eliminating the air gap and by dampening stresses, the Franklin Automatic Compensator and Snubber greatly prolongs bearing life and increases locomotive mileage between shoppings. It has never been so important to keep every locomotive working to its utmost as it is today!

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

on plans for the replacement on the steamship "Niagara," in Australia-New Zealand service, he expressed the belief there will be increased "after-war trade with Australia, as well as with other countries bordering on the Pacific," and he observed, "the work that has to be done in preparation will be a considerable factor in providing employment for Canadians during the period of afterwar reconstruction."

Though he does not see at present "upon what line the Canadian trade and influence will move" when peace is resumed, Mr. Coleman feels it reasonable to expect "that development will be rapid and will assume a far greater importance in Canadian trade than it has done in the past."

60-Mile Swiss Scenic Line Now All Electric

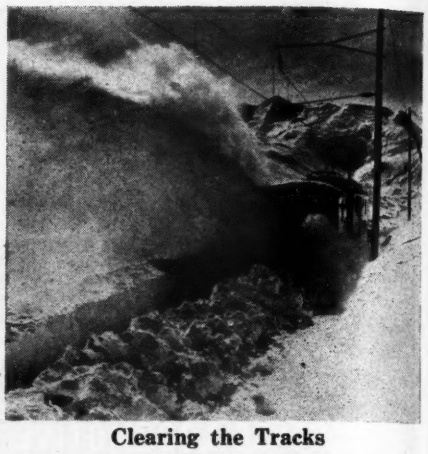
The Furka-Oberalp Railway (a part of the Swiss Federal Railroads), famous scenic route between the rivers Rhine and Rhone, has now been completely electrified. Changeover from steam was agreed upon in 1940, because of the war and the steadily growing coal shortage. Sixty miles long, the line runs between Brig and Disentis, Switzerland, traversing the St. Gotthard region.

The railway is meter-gage, with rack and pinion portions used on the heavier grades that comprise 19½ miles of the entire stretch. Of technical interest are the road's 50 viaducts, its avalanche galleries and its 12 tunnels. At one point, between Gletsch and Realp, contact lines and poles must be removed in the winter, when this section of the road ceases operation, though a specially devised method permits of rapid re-installation in the spring.

Two types of motive power are employed: 1,400-hp. locomotives with four axles and four driving motors, which are used in heavy passenger and freight service, and rail cars with four axles and two driving motors of 650-hp. for light passenger traffic.

When construction of the line was undertaken in 1911, the builders decided in favor of steam, despite the predominance of electrification throughout Switzerland. It was thought that because of the high altitude territory (one elevation is 6,670 ft. above sea level) through which the railroad was to pass, that electric installations, which would involve their removal in autumn, and their re-setting up in the spring, would prove too costly. With the outbreak of World War I, the line had been completed from Brig to Gletsch, 28½ miles. Work on the remaining sections, from Gletsch to Andermatt (13½ miles) and from Andermatt to Disentis (18 miles) was suspended until 1925.

In that year the Swiss government, together with the cantons and other interested railways, purchased and completed the line. French capital had financed the initial venture. By the middle of October, 1940, following the decision to effect the changeover from steam, electric locomotives operated between Andermatt and Oberalpsee, and between Disentis and Tschamut. The lofty connecting link between Tschamut and Oberalpsee, at 5,591-ft. and 6,670-ft. elevations, respectively, continued with steam until May, 1941. The Andermatt-Gletsch-Brig stretch was finally completed in the spring of 1942.



Clearing the Tracks

Fitted with two turbines and driven by single-phase 500-hp. motors, propelled by the locomotive, this rotary snow plow can clear away drifts over 8 ft. high, and can remove up to 7½ cu. yd. of snow per second.

Photos by J. Haemisegger, Andermatt

Traversing an Alpine Region on the Furka-Oberalp Line

Electrification has reduced the time of the Brig-Disentis express trains from 4¾ to 3½ hours. Trains stopping at Gletsch and Andermatt only cover the 60-mi. run in 3¼ hours. Locals can now make the trip in 4¼ hours, instead of 5¼ formerly.

New Tank Car Pool Is Set Up

To augment further the East Coast's supply of petroleum, the Office of Defense Transportation announced December 15 that it was assigning some 3,000 tank cars for a movement of "sour" crude oil from the West Texas fields to eastern refineries.

It was explained that the so-called "sour" crude of West Texas, which contains a high percentage of sulphur, must be moved to certain refineries which are equipped to handle such crudes. This necessitates long rail hauls, since most of the large refineries which are so equipped are located in East Coast area.

Present plans call for the movement of some 39,000 barrels daily from Midland, Tex., the point on the Texas & Pacific to which the oil is brought by pipe line, to various East Coast refineries. On the basis of an 18-day turn-around time for the cars, some 180 tank cars a day will be needed to carry the oil, or approximately 3,000 cars to preserve the continuity of the movement. The cars will be operated in a pool.

Since the Secretary of Commerce re-

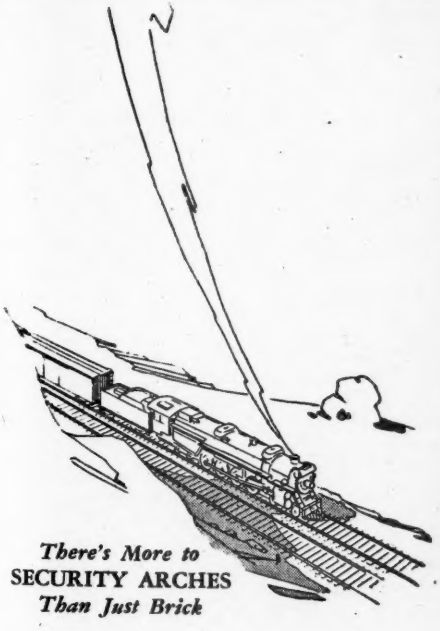
News Department continued on next left-hand page

FUEL ECONOMY
is maximum ton-miles from every pound of fuel!

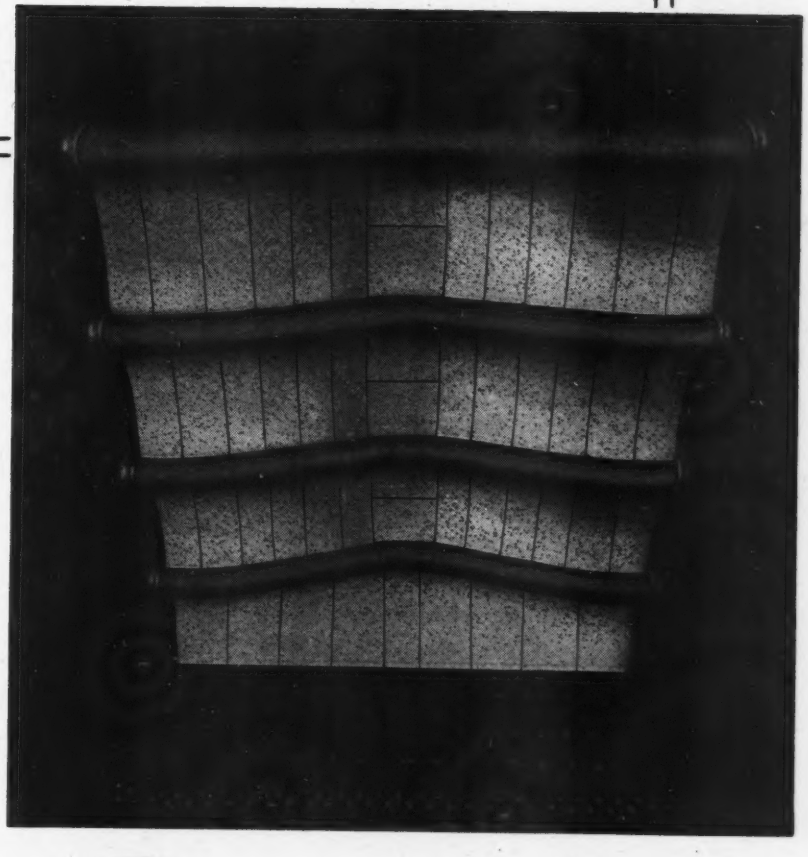
Security Brick Arches are correctly designed to compel every pound of fuel to develop its share of full boiler capacity.

Security Arch Brick are made from selected clays and carefully burned to assure maximum arch life in the locomotive firebox.

By every standard of value Security Arch Brick assures maximum economy.

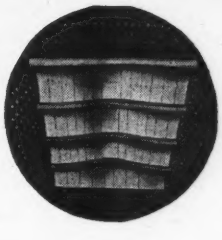


There's More to
SECURITY ARCHES
Than Just Brick



HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



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cently ruled that oil companies whose taxable income does not place them in the excess profits bracket may be reimbursed by the government for the added transportation cost of the West Texas crude when it is shipped by tank car to District 2 refineries, a movement of 40,000 barrels a day of West Texas "sour" crude from Midland, Tex., to some 20 Midwestern refineries is now under discussion by interested government agencies. If this movement materializes, it is estimated that it will require another 2,000 tank cars.

Distinguished Service to Safety

The Illinois Central, as reported in the *Railway Age* of December 11, has been presented with the distinguished service and safety award of the National Safety Council for making the greatest reduction in total employee casualty rates of any major railroad in the first seven months of 1943. This was the first time that such an award had been made to a railroad for this type of accomplishment. On the basis of million man-hours worked, the Illinois Central's ratio of personal injuries has dropped from 9.18 during the first 10 months of 1942 to 6.88 for the same period of 1943. The record was established in the face of increases in the number of employees and man-hours worked.

Formal presentation was made by Ned H. Dearborn, executive vice-president of the Council, (to the left in the picture) and was received for the railroad and its employees by Stanley E. LeGrande, a millman at the company's Mattoon, Ill., shops. Mr. LeGrande was designated a safety ace by the Council last summer.

Strike Threat on A. B. & C.

Last week a strike of train, engine and yard employees of the Atlanta, Birmingham & Coast was suspended shortly before the effective time, upon the arrival of an N. M. B. mediator on the scene—since which time there have been no further developments.

B. L. Bugg, president of the road, on December 6 received a telegram from Thomas E. Bickers, secretary of the National Mediation Board, advising him that A. F. Whitney of the B. of R. T. and D. B. Robertson of the B. of L. F. & E. had authorized a strike of train and engine crews on the property, effective December 8. The telegram asked Mr. Bugg if he cared to make a statement, and he replied, in part, as follows:

"Your wire advising that you had received notice from Whitney and Robertson that the A. B. & C. employees intend to strike in protest to the decision of the Emergency Board—your case A1267, denying the removal of old and long standing wage differentials: In reply we wish to state that this dispute has been fully and fairly heard by a duly constituted Emergency Board and adjudicated under the machinery provided under the Railway Labor Act, as amended, and the Executive Order of the President No. 9172.

"The Emergency Board which heard and decided this case in referring to the demands of the employees said in part 'it is the opinion of the Board that the removal of long-standing wage differentials at the present time is not consonant with the purposes of the National Wage Stabilization Program.'

"The Executive Order of the President provides that the national interest demands that for the effective prosecution of the War there shall be no strike votes taken, or dates fixed for the beginning of strikes, or strikes, lockouts or embargoes put into effect which would affect the transportation industry covered by the Railway Labor Act. This Executive Order of the President also stated that an Emergency Board set up as provided therein shall have 'exclusive and final jurisdiction of the dispute.'

"As the dispute has been finally decided in accordance with the law this railroad possesses no power or authority to disregard the decision of the Emergency Board. We as patriotic Americans do not intend to disregard the orderly processes of government nor the government stabilization policy. The A. B. & C. Railroad exclusively serves two vital war plants—the Coosa River Ordnance Plant, Talladega, Ala., and the Alabama Ordnance Works, Tallacoosa, Ala., and additionally serves several other war plants.

"An interference with the continued transportation afforded by this railroad would not only deprive many communities of Georgia and Alabama of their only railroad facility but would disrupt the flow of vital ammunition to our fighting men and constitute an unfriendly act to our government and would give aid and comfort to our enemies. This strike if put into effect will constitute a violation of the laws of the United States."

On the morning of December 8, the day for which the strike was called, Mr. Bugg received advice from union representatives that the N. M. B. had sent a mediator to Atlanta and strike action had, meantime, been suspended.

A. B. & C. train and engine service employees receive 81 per cent of so-called "standard" pay—this having been fixed by an Emergency Board on June 1, 1941. The September 25, 1943, report of the Stacy board on transportation employees' wages did not alter this differential. The A. B. & C. has approximately 1,700 employees—322 of them being in train, engine and yard service.

Eastman Tells Denver Shippers What Their RRs Have Done

Speaking in Denver, Colo., December 15 to joint meeting of Central Western Shippers Advisory Board and the Colorado Motor Carriers Association, Director Joseph B. Eastman of the Office of Defense Transportation reviewed the wartime accomplishments of the nation's agencies of transportation and elaborated upon the critical situation they are likely to face in the months immediately ahead.

In referring particularly to the burdens that had been put upon the western roads, and the measures they had resorted to in meeting the demands made upon them, Mr. Eastman said in part:

"You are served by what are known as the transcontinental railroads. No railroads in the country have a harder war job. Prior to the war, much of the freight between our two coasts moved by water through the Panama Canal. Even before Pearl Harbor, these vessels were being diverted rapidly to overseas service, and since that time the full burden of the traffic they formerly carried has fallen on the transcontinental railroads. In addition, our war with Japan and the great war production program instituted on the Pacific Coast have tremendously increased the volume of transcontinental freight. This in-

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Ample
Coal Reserves

"The steam locomotive burns coal or low grade oil and no major change is required to convert from one fuel to the other. Our ample coal reserves insure that the steam locomotive will not be starved out of existence in any foreseeable future."

Motive Power—Wartime & After
RAILWAY AGE, October 9, 1943.

* * *

The steam locomotive is most essential in the war effort, and will be prominent in post-war activities.

A-1623

ELESCO

SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

THE SUPERHEATER COMPANY

Representative of
AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
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Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

crease has been accelerating of late and its end is not yet in sight.

"Great troop movements have become the rule, not only to the ports of embarkation, but to and between the big training camps which dot the western area. In this war, the movement of troops incident to the training program has been vastly greater, both absolutely and relatively, than in the last World War, and it must be done by the same railroad lines, mostly single-track here in the West, as carry the freight. Moreover, the western railroads, particularly in the Pacific Coast territory, have suffered from manpower shortages more acutely than the eastern and southern railroads. Never in their history have the transcontinental lines been put to any such strain. It goes far beyond anything for which they were designed and built.

"Any major reconstruction or enlargement of these railroad systems was out of the question. They have, however, been expanded at critical points. Important terminal and junction yards have been and are being enlarged materially. Numerous passing tracks and sidings have been built. Centralized traffic control has been installed in troublesome sectors. Considerable new motive power has, I am glad to say, been provided. The Army and Navy have created, at strategic interior points within reach of the coast, extensive storage facilities for use in regulating the flow of traffic to the ports, and this traffic has been kept under constant control. . . .

"The railroads, at our instigation, are preclassifying and blocking cars, eliminating much reclassification and switching which formerly was necessary at junction or division points. We have a wire reporting system which keeps us currnently advised of traffic conditions on all important routes and at strategic points; and at Chicago, an Associate Director of our Division of Railway Transport, W. F. Kirk, is located, armed with authority from both the ODT and the ICC and able to divert traffic at a moment's notice from routes that are threatened with congestion to routes with some capacity to spare.

"Cooperation of the railroads with each other extends even further. The freight car has always been a freely circulating medium, but with restrictions governing return to home roads. In the war emergency, these restrictions have been abandoned where necessary to meet traffic needs. For example, to help out in the handling of the great spring wheat crop in the last three months, a task made much more difficult by the contemporaneous and abnormal movement of old grain out of the terminal elevators for feeding purposes, empty eastern cars have been permitted to move from such points as Chicago and St. Louis out into the grain territory, instead of being returned promptly to the owning roads.

"Passenger coaches and locomotives have in the past largely been confined to service for their owners. In the present troop movements, coaches are moving all over the country, far away from their home lines. Railroads with locomotives to spare are loaning them freely to roads that are short of power, and this has been particularly true in the western territory. The Denver & Rio Grande Western, for example, has been the beneficiary of considerable foreign power, including, in the winter season, mallet locomotives from the iron range railroads of Minnesota.

"The shippers have contributed notably to freight car performance, not only by cooperating in the heavier loading, but also by loading and unloading quickly, thus keeping the cars in circulation. The Regional Advisory Boards . . . have been fervent and effective promoters of this cooperation. Along with the great movement of Pacific Coast war traffic, there is now and for some time has been an unusually heavy movement of livestock. The livestock shippers, through their organizations, have been of great help in the planning, control, and efficient handling of this traffic. The same is true of the huge grain movement, where we have had the constant and effective assistance of a large number of shipper advisory committees."

Commission Revises Its Milwaukee Plan

(Continued from page 987)

(1) The effective date is changed from January 1, 1939, to January 1, 1944.

(2) Cash on hand to the amount of $52,038,036 is to be distributed on account of interest accrued during the trusteeship to four classes of old company bondholders, viz: $212,759 on the Milwaukee & Northern first mortgage; $1,058,374 on the Milwaukee & Northern consolidated mortgage; $26,745,018 on the general mortgage bonds; and $24,021,885 on the 50-year bonds of 1975.

(3) Allocations to the holders of Milwaukee & Northern first mortgage and consolidated mortgage bonds and the old company's general mortgage bonds of an additional $7,096,336 of new first mortgage bonds, made available in part through payment of a bank loan and reduction of the claim of the Reconstruction Finance Corporation during the 1940 plan's involvement in litigation.

(4) Allocation of additional preferred stock to holders of Chicago, Milwaukee & Gary bonds on account of interest accrued since January 1, 1939.

(5) A sinking fund for the retirement of new first mortgage bonds is to be set up.

(6) A fund for the retirement, first, of the new general mortgage bonds and afterwards of the new preferred stock is to be created by setting aside an amount equal to 50 per cent of dividends paid on new common stock.

(7) Payment of interest or principal under the new mortgages may be postponed on consent of holders of 75 per cent of outstanding bonds.

(8) An alternative distribution of securities is provided in the event that the R. F. C. claims are satisfied.

(9) Reorganization managers must be approved by the court.

As thus revised, the new company's capitalization is fixed at $533,090,698. In comparison with the former plan, it includes only $18,472,578 of equipment obligations, and only slight variations in the amounts of securities to be issued are effected by the modifications provided. Through inclusion of an additional annual allocation of $2,500,000 for additions and betterments on a contingent basis and provisions for the new sinking funds, annual charges before dividends under the modified plan would amount to $14,393,562, in contrast to $15,032,528 under the 1940 plan after adjusting it for the enlarged additions and betterments appropriation.

The balance of the R. F. C. claim is stated at $10,442,828. An alternate plan for the distribution of new company securities is provided by the commission to be effective in the event that this claim should be paid in cash before the reorganization becomes effective. In that event total cash distributions would amount to $62,480,864, but the holders of each issue of the various old company securities would receive relatively better allotments of new securities.

In a brief separate opinion, Commissioner Miller expressed his agreement with the majority as to the matters which were referred back to the commission by the court, but objected to certain other provisions, especially the majority's provision for a sinking fund to retire the general mortgage bonds. Instead, he would have applied that fund first to the retirement of fixed interest bonds.

I. C. C. Service Orders

By Service Order No. 115-B, effective December 5, the Interstate Commerce Commission has suspended until March 5, 1944, its Service Order No. 115, which suspended diversion and reconsignment provisions of tariffs covering shipments of fruits and vegetables from various southeastern states.

Effective December 7 to December 20, inclusive, Service Order No. 167 prohibited the use of standard or giant refrigerator cars for the movement of canned or preserved foodstuffs (not cold-pack), beer and wine, except where the use of such

* * * *

January Safety Poster

Installment No. 245 of the "All-Year-Every Year Safety Program," currently being released by the Committee on Education, Safety section, Association of American Railroads.

News Department continued on next left-hand page

"RAILWAY" Springs FOR VICTORY

MODERN locomotives carried on "Railway" Springs and employed in intensive war service are advancing the day of Victory by helping to keep motive power on the job. "Railway" Springs are manufactured to exacting specifications —guaranteeing long life, easy riding and consequently reduced upkeep of rolling stock and roadbed.

Alco

AMERICAN LOCOMOTIVE COMPANY

RAILWAY STEEL-SPRING DIVISION

30 CHURCH STREET NEW YORK, N. Y.

cars is in conformance to the requirements of Service Order No. 104, which applies to the use of westbound empty refrigerator cars in place of box cars.

Service Order No. 168, corrected, effective from December 7 to May 31, 1944, unless otherwise changed or extended, permitted the Norfolk & Western to use certain flat bottom, high side gondolas of 180,000 lb. capacity, which are suitable for carrying coal only when they can be unloaded by a mechanical car dumper, in service between Gary, W. Va., and Gary, Ind., with a carload minimum weight of 60 net tons. These cars were not being used at the time the order was issued, it was indicated, and it was the opinion of the commission that the shortage of equipment required suspension of the tariff requirements in order to permit their use under the terms of the order.

Freight Car Loading

The total of carloadings for the week ended December 11 was not available at the time this issue of *Railway Age* went to press.

Loading of revenue freight for the week ended December 4 totaled 862,759 cars, and the summary for that week as compiled by the Car Service Division, A.A.R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, December 4			
District	1943	1942	1941
Eastern	165,129	143,232	172,649
Allegheny	184,501	159,687	180,777
Pocahontas	58,929	51,864	56,020
Southern	127,251	116,342	122,191
Northwestern ..	113,538	88,017	112,052
Central Western	135,223	126,573	126,627
Southwestern ..	78,188	74,016	63,059
Total Western Districts	326,949	288,606	301,738
Total All Roads	862,759	759,731	833,375
Commodities			
Grain and grain products	56,351	44,278	42,754
Live stock	19,750	18,313	14,631
Coal	185,844	161,451	150,479
Coke	15,155	14,250	13,153
Forest products.	46,043	39,061	41,005
Ore	40,743	26,223	36,687
Merchandise l.c.l.	105,940	89,151	156,420
Miscellaneous ..	392,933	367,004	378,846
December 4 ...	862,759	759,731	833,375
November 27 ..	820,082	743,464	866,180
November 20 ..	882,287	836,762	799,386
November 13 ..	847,683	826,695	883,890
November 6 ...	754,724	829,663	873,582
Cumulative Total 49 Weeks ...	40,190,476	40,747,748	40,077,169

In Canada.—Carloadings for the week ended December 4 totaled 73,762, compared with 75,633 for the previous week, and 66,885 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

Total for Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
Dec. 4, 1943	73,762	41,069
Nov. 27, 1943	75,633	39,892
Nov. 20, 1943	73,677	38,279
Dec. 5, 1942	66,885	32,720
Cumulative Totals for Canada:		
Dec. 4, 1943	3,251,551	1,847,799
Dec. 5, 1942	3,194,614	1,658,921
Dec. 6, 1941	3,019,804	1,467,308

1944 Signal Section Officers

Officers of the Signal section, Engineering division, Operations and Maintenance department, Association of American Railroads, have been selected for the period January 1, 1944, to December 31, 1944. They are, as follows: Chairman, J. P. Muller (engr. sigs. & tel., Boston & Maine, and sig. engr., Maine Central); first vice-chairman, S. E. Noble (supt. tel. & sigs., Chicago & North Western); and second vice-chairman, E. W. Reich (sig. engr., Reading Co.).

Elected to the Committee of Direction for the term January 1, 1944 to December 31, 1947 are: L. S. Werthmuller (sig. engr., Missouri Pacific) and W. L. Dayton (sig. engr., Grand Trunk Western).

Rock Island Yardmaster's Office Stage for Broadcast

The yardmaster's office of the Chicago, Rock Island & Pacific at Silvis, Ill., with the activities of a railroad yard in action at night as a background, was the stage for a broadcast over the Blue Network system by Lowell Thomas at 11:30 p.m. on December 17. The broadcast was arranged at Silvis so that the speaker would have an appropriate wartime setting as part of a series of radio appearances.

Club Meetings

At the December 20, 8 p. m. meeting of the Northwest Locomotive Association, Woodruff Hall, St. Paul, Minn., Robert Watson, western sales manager, Waugh Equipment Co., will present a paper "Firebar Grates." In addition there will be a motion picture — "Railroads Speed the Freight."

"Diesel Electric Locomotives in Road Service" is the topic to be presented by P. H. Hatch, assistant mechanical engineer, New York, New Haven & Hartford, at the January 11 meeting of the New England Railroad Club, scheduled for 6:30 p. m. at the Hotel Vendome, Boston, Mass.

Seaboard's Forestry Bulletin

The Industrial Department, Seaboard Air Line, has issued for November, "Forestry Bulletin," Vol. 1, No. 2, bearing the slogan "Keep the Forests Growing—Keep the Whistles Blowing." This four-page pamphlet discusses briefly such topics as the railroads' need for cross ties, the timber farm program in North Carolina, lumber production in 1942, and state-wide forest fire control in South Carolina. The bulletin is published periodically and will be sent to lumbermen, industries or others in Seaboard territory who evince an interest in the subject.

Model Engineers to Hold Their 16th Annual Exhibition

In order to arouse further interest in model-making, the New York Society of Model Engineers will hold its 16th Annual Show and Exhibition from February 11 to 22, inclusive, at 152 West 42nd street, New York. Mechanical, ship, railroad and architectural models will be displayed and suitably lighted for the benefit of camera fans.

The main interest will center on the society's operating scale model railroad containing over 2,500 ft. of track. Model railroad equipment of all types will run over the lines of the "Union Connecting Rail Road," including as well, a recently completed Pullman train with cars named after prominent men connected with the railroads.

Exhibition rooms will be open daily from 5:30 to 10:00 p.m. weekdays, and on Saturdays, Sundays and holidays, from 1:00 to 10:00 p.m. Admission will be 30 cents for adults, 15 cents for children, and there will be a special charge of 15 cents for men and women in uniform.

Supply Trade

Donald S. Klippert, Cleveland, Ohio, district manager of the Timken steel and tube division of the **Timken Roller Bearing Company,** Canton, Ohio, has been appointed assistant general manager of sales of that division. **Robert P. Donnell,** Timken steel and tube division metallurgical engineer, has been appointed to succeed Mr. Klippert at Cleveland.

V. C. Otley, has been appointed manager of creosote and pitch sales of the Barrett division of the **Allied Chemical & Dye Corporation** with headquarters in New York, succeeding **Walter Buehler** who has relinquished these responsibilities after many years' service to become special representative with headquarters at Lakeland, Fla.

A. C. Lewis, who has been elected vice-president in charge of sales of **Templeton, Kenly & Co.,** Chicago, effective January 1, as reported in the *Railway Age* of December 11, entered the employ of this company in 1912 and later opened a Canadian plant in Toronto, Ont., for the manufacture of the company's jacks. When Canadian manufacturing was discontinued temporarily in 1915 and the plant's equipment was sold, Mr. Lewis resigned to form the A. C. Lewis Company, Ltd., Canadian distributor for Simplex jacks. In 1917 he became an

A. C. Lewis

officer in the Third Canadian Infantry battalion, Toronto regiment, in France and upon being wounded at Amiens on August 8, 1918, was removed to a hospital in Canada. Upon being discharged from the hospital, he returned to his business. When, in 1928 the Railway & Power Engineering Corp., Ltd. took over the assets of A. C. Lewis

News Department continued on next left-hand page

For every notable advance in the character and scope of rail transportation, we have been privileged to collaborate with the railroads in developing a suitable air brake equipment, often anticipating the probable trend of future requirements.

If the post-war period brings more competitive conditions, OPERATING ECONOMY may be the chief consideration, and new developments will take place.

Whatever new and unusual requirements are encountered, our specific resources will concentrate on development of such braking facilities as will contribute to economical and profitable transportation.

WESTINGHOUSE AIR BRAKE CO.

Company, Ltd., including the distribution of Templeton, Kenly & Co. products, Mr. Lewis was made special representative of the sales department, which position he has held until his recent election.

Charles Ducas, until recently chief of the transportation section, projects division

Charles Ducas

of the Office of Economic Warfare, has joined the staff of **Melvin Pine & Co.,** of New York, export managers for a group of non-competitive manufacturers. Mr. Ducas will establish and manage the transportation equipment and supply department. He was graduated from Purdue University and for several years thereafter was associated with the late Dr. W. F. M. Goss. He was associate editor of the Railroad Gazette (now the *Railway Age*) from 1902 to 1906. Since that time, he has been a consulting engineer, largely in the railway and railway supply industries.

W. F. Dietrichson, assistant general mechanical engineer located at the Berwick, Pa., plant of the **American Car & Foundry Co.,** has been appointed general

W. F. Dietrichson

mechanical engineer for the company with headquarters at Berwick. Mr. Dietrichson was born in Oslo, Norway, and was graduated from the Oslo Technical College in 1907, in which year he came to America. He was employed as a draftsman for the Standard Steel Car Company from 1908 to 1912. He joined the a.c.f. general mechanical engineering office at St. Louis, Mo., in 1912, working as checker and calculator for the ensuing five years. He entered the U. S. Army in 1917, and served with the U. S. Ordnance department in France as captain and major until July, 1919. He acted also as Ordnance observer for railroad artillery abroad. Following the war, he re-joined the American Car & Foundry Co., as assistant mechanical engineer at the St. Louis, Mo., plant. He was appointed assistant general mechanical engineer in 1938.

Allen W. Clarke, mechanical engineer in charge of the western engineering division of the American Car & Foundry Co., has been appointed assistant general mechanical engineer with headquarters at St. Charles, Mo. Mr. Clarke was graduated from Purdue University in 1907, and received a master's degree in mechanical engineering from that institution. He began his association with a.c.f. in the summer of 1905. Following graduation he served

Allen W. Clarke

in the engineering department at the Jeffersonville, Ind., plant until 1908, and in the office of the chief mechanical engineer at the St. Louis, Mo., plant from 1908 to 1911. He was chief draftsman and subsequently local engineer at the Jeffersonville plant from 1911 to 1928, when he was transferred to the engineering office at New York as assistant engineer and mechanical engineer. He served as mechanical engineer at the Berwick plant from 1932 to 1933. He was placed in charge of the western engineering division in 1933.

TRADE PUBLICATIONS

LIGHTING.—A twenty-two page illustrated booklet entitled, "Lighting Specific for Railroads," has been prepared by the engineering department of the Holophane Company, Inc., 342 Madison Avenue, New York, N. Y. It contains specific recommendations for the lighting of medium size railway stations, freight houses, office and file rooms, freight team yards and driveways, coal and water facilities, enginehouses, machine shops, locomotive repair shops, car shops, paint shops, etc. Suggestions are made for arrangement of lighting units, procedure, lighting intensities and types of fixtures best suited for different applications.

Only incandescent lighting is considered. The Holophane Company manufactures fluorescent lighting equipment for all of the applications shown but this is not included in the present catalog because of the current material situation. Passenger car lighting will also be covered as a separate subject.

Equipment and Supplies

IRON AND STEEL

The BANGOR & AROOSTOOK has ordered 5,211 tons of rail from the Bethlehem Steel Company.

Construction

New 15-Mile Line for C. N. R.

The Canadian National has announced a plan for the early construction of a new 15-mile line connecting Eastern Junction station, Montreal, with Bout-de-l'Isle, on the northeast tip of the Island of Montreal. Abandonment of a 32-mile line between Montfort and Joliette (over which traffic which will use the new line now moves) will result in the recovery of 6,200 tons of steel.

The new line, slated for completion in 1944, at an estimated cost of $2,870,000, will shorten by 76 miles the freight route from the Longue Pointe industrial district to the classification yards at Turcot, over the existing route via Joliette. Distance between these two points, as the crow flies, is 11 miles, but at present the rail distance is 108 miles, via Joliette and Rinfret Junction. The new line also will shorten by 24 miles the route covered by freight moving between the west end of Montreal and localities on the north shore, east and north of Joliette. The resulting operating economy will be about $293,000 per year.

It is announced the new line will permit operation into the Central station of passenger trains from Abitibi, Lake St. John and Chicoutimi districts. It will also open a new industrial and residential area.

CENTRAL OF NEW JERSEY.—This railroad has awarded a contract for the construction of a dormitory building at its Bethlehem, Pa., engine terminal, at estimated cost of $34,880, to Earl W. Ecker of Bethlehem.

NEW YORK CENTRAL.—This railroad has awarded a contract for the construction of a freight transfer platform and canopy, and extension of the existing freight platform, at Utica, N. Y., to the Fred Ballard Construction Company, Syracuse, N. Y.

SOUTHERN.—This road has begun the construction of additional tracks to serve the Anniston Ordnance Depot at Bynum, Ala., at an estimated cost of $48,900. The work is being done by company forces.

News Department continued on next left-hand page

INCREASE REVENUES

INTENSIVE operation under war-time conditions has proven that the locomotives equipped with wear-resisting parts made from HUNT-SPILLER *Air Furnace* GUN IRON can be depended upon to produce maximum revenue mileage—and for a very low maintenance cost. Performance records show that these locomotives handle their trains better—consume less fuel—require fewer running repairs and cost less to overhaul.

Every application results in outstanding economies—make sure your power is equipped with all the parts listed below.

HSGI
Reg. U. S. Trade Mark
Cylinder Bushings
Cylinder Packing Rings
Pistons or Piston Bull Rings
Valve Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
Floating Rod Bushings

Finished Parts
Dunbar Sectional Type Packing
Duplex Sectional Type Packing
for Cylinders and Valves
(Duplex Springs for Above
Sectional Packing)
Cylinder Snap Rings
Valve Rings, All Shapes
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for Diesel Service

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HUNT-SPILLER GUN IRON
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Financial

CENTRAL OF GEORGIA.—*Interest Payment.*—The United States district court at Savannah, Ga., has authorized trustees to pay $1,250,000 interest to the mortgage trustees of the first mortgage, the consolidated mortgage, and the Chattanooga, Rome & Southern mortgage.

CENTRAL OF NEW JERSEY.—*Pennsylvania Subsidiary Considered.*—On December 8, William Wyer, chief executive officer of the Central of New Jersey, announced that the railroad was considering organizing a new company to operate its Pennsylvania properties.

DENVER & RIO GRANDE WESTERN.—*Reorganization.*—Attorneys for the Denver & Rio Grande Western and its subsidiary, the Denver & Salt Lake, filed notices on December 13 with the tenth United States District Court at Denver, Colo., that the recently approved Interstate Commerce Commission plan for reorganization would be appealed. The District Court at Denver approved the reorganization plan on October 25.

GREAT NORTHERN.—*Promissory Notes.*—This company has applied to the Interstate Commerce Commission for authority to issue $6,506,232 of promissory notes in evidence of, but not in payment for, indebtedness to be incurred under conditional sales contracts for the purchase of thirteen 5,400 h.p. Diesel-electric locomotives from the Electro-Motive Division of General Motors Corp. at $500,479 each. Authority has been secured from the War Department for amortization of the cost of this additional equipment over a 5-year period, the application stated, and it is expected that the contracts can be financed at a low interest rate through competitive bidding. The new locomotives will be used in freight service in the road's mountain districts, it was explained, and substantial savings in operating costs are anticipated.

The terms set forth in the application contemplated financing the entire cost of the new equipment through sales contracts, and it was explained that the road considers this procedure advantageous, as it will permit it to employ all available cash resources for the retirement of debt carrying higher interest rates. Its outstanding long-term indebtedness has been reduced in 1943 by $19,653,000 and other obligations have been reduced by $5,571,000, the application indicated.

LEHIGH VALLEY.—*New Director.*—Edgar H. Boles, president of the General Reinsurance Corporation, has been elected a director of the Lehigh Valley, of which he formerly was vice-president and general counsel.

NEW YORK CENTRAL.—*New Director Elected.*—Carl P. Dennett, of Boston, Mass., has been elected a director of the New York Central, succeeding T. Jefferson Coolidge, who has resigned.

NEW YORK CENTRAL.—*Acquisition.*—Division 4 of the Interstate Commerce Commission has authorized this road to purchase the property of the St. Joseph, South Bend & Southern, which it controls through stock ownership, so that the latter company may eventually be dissolved and the system capital structure simplified.

ST. LOUIS-SAN FRANCISCO.—*Modified Reorganization Plan.*—Committees for holders of the Fort Scott, prior lien, and consolidated bonds of this road have requested the Interstate Commerce Commission to reopen its proceedings involving its plan of reorganization so they may offer an alternative plan. Pointing out that the road's trustees, after the commission's plan had failed to receive the court's approval, had as of November 24 satisfied all the claims of the Reconstruction Finance Corporation and the Railroad Credit Corporation, to the plan's provision for which objection had been made, the application emphasized the effect of this development on the relative position of the security holders and on the availability of assets for the satisfaction of other claims.

STROUDS CREEK & MUDDLETY.—*Acquisition.*—This road has applied to the Interstate Commerce Commission for authority to acquire an 8.43-miles extension of its line from Muddlety Falls, W. Va.

Average Prices Stocks and Bonds

	Dec. 14	Last week	Last year
Average price of 20 representative railway stocks..	34.93	34.76	27.42
Average price of 20 representative railway bonds..	79.73	78.69	67.51

Dividends Declared

Canadian Southern.—$1.50, semi-annually, payable February 1, 1944, to holders of record December 28.

Gulf, Mobile & Ohio.—$5.00 preferred, $2.50, payable December 27 to holders of record December 17.

New London & Northern.—$1.75, quarterly, payable December 27 to holders of record December 10; extra, 25¢, payable December 27 to holders of record December 10.

Pittsfield & North Adams.—$2.50, semi-annually, payable January 3, 1944, to holders of record December 31.

Rochester & Genesee Valley—$2.00, semi-annually, payable January 3. 1944, to holders of record December 20.

Abandonments

BOSTON & MAINE.—This company has applied to the Interstate Commerce Commission for authority to abandon a line from Saco, Me., to Rigby, 9.72 miles.

EASTLAND, WICHITA FALLS & GULF.—This road has applied to the Interstate Commerce Commission for authority to abandon its entire line, consisting of a main line from Mangum, Tex., to Ringling Junction, 26.6 miles, and a 2-mile spur.

PERE MARQUETTE.—In a proposed report Examiner J. S. Prichard has recommended that the Interstate Commerce Commission authorize the Manistee & Northeastern, controlled by this company through stock ownership, to abandon a portion of a branch from a point near Cedar City, Mich., to Provemont, 10.7 miles.

Railway Officers

EXECUTIVE

Jules A. Fremon, treasurer and traffic manager of the Marinette, Tomahawk & Western, has been promoted to executive vice-president, with headquarters as before at Tomahawk, Wis.

E. G. Gustafson, assistant general traffic manager of the Minneapolis & St. Louis, with headquarters at Chicago, has been promoted to vice-president, traffic, with the same headquarters, and the position of assistant general traffic manager has been abolished. Mr. Gustafson was born at Aurora, Ill., on July 21, 1891, and entered the service of the M. & St. L. in August, 1914, as chief clerk in the Chicago office. He was advanced to traveling freight agent three years later, and was made general agent in Cleveland, Ohio, in 1920. In 1926, he was transferred to Chicago, and in February, 1935, he was promoted to assistant general freight agent at that point. In September, 1936, Mr. Gustafson was advanced to assistant traffic manager, with the same headquarters, and in April, 1938, he was promoted to the position he held at the time of his new appointment, effective December 1.

E. G. Gustafson

FINANCIAL, LEGAL AND ACCOUNTING

J. H. Steele, has been appointed auditor of revenues of the Colorado & Southern (part of the Chicago, Burlington & Quincy), with headquarters at Denver, Colo.

Roy E. Larson, general cashier of the Western Pacific, with headquarters at San Francisco, Cal., has been promoted to assistant treasurer, with the same headquarters.

Leo V. Sullivan has been appointed general auditor of the New York, New Haven & Hartford, in charge of all branches of the general accounting department except outside division accounting. Mr. Sullivan en-

News Department continued on next left-hand page

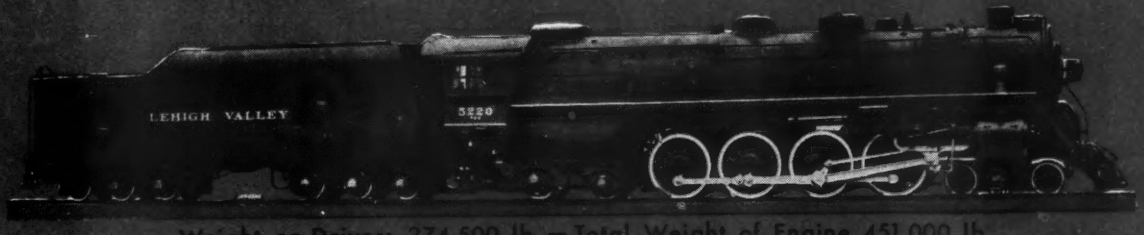
HENNESSY

Mechanical Journal Lubricators

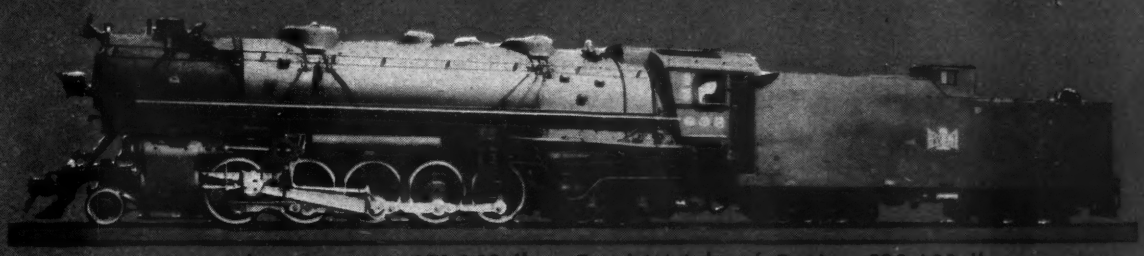
ON MANY REPEAT ORDERS ATTEST TO THE ADAGE —

"The Proof of the Pudding is in the EATING"...

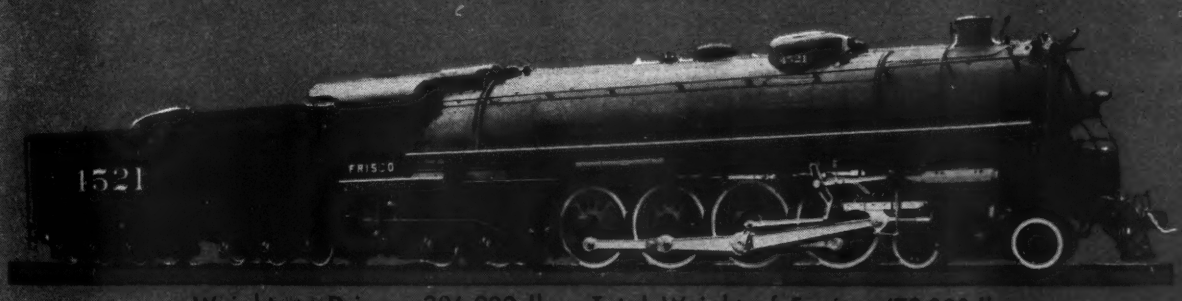
HENNESSY LUBRICATOR



Weight on Drivers 274,500 lb. — Total Weight of Engine 451,000 lb.



Weight on Drivers 371,359 lb. — Total Weight of Engine 523,600 lb.



Weight on Drivers 286,900 lb. — Total Weight of Engine 479,300 lb.

Hennessy Mechanical Journal Lubricators are in use on 35 railroads in United States and Canada, as well as in numerous foreign countries.

HENNESSY LUBRICATOR CO., Inc.

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tered the service of the New York, New Haven & Hartford in 1912, in the car service department. He was transferred to the auditor of disbursement office in 1919, and

Leo V. Sullivan

in April, 1925, he became chief clerk to general auditor. In March, 1934, he was advanced to accountant, in November of the same year to statistician, and in October, 1941, was promoted to become special assistant to comptroller. He served in this capacity until his present appointment as general auditor.

R. Holland has been appointed assistant to auditor of disbursements of the Lehigh Valley, with headquarters at Bethlehem, Pa.

Milton I. LaBelle, assistant auditor of disbursements of the Minneapolis, St. Paul & Sault Ste. Marie (Soo Line), and of the Duluth, South Shore & Atlantic, with headquarters at Minneapolis, Minn., has been promoted to auditor of disbursements, with the same headquarters. Mr. LaBelle was born at Minneapolis on March 11, 1903, and entered railway service with the Minneapolis & St. Louis as a clerk in the office of the auditor of disbursements in May, 1920. On December 6, 1926, he went with the Soo Line as a clerk in the office of the auditor of capital expenditures, with headquarters at Minneapolis. In February, 1928, Mr. LaBelle was promoted to traveling accountant, with the same headquarters, and five years later he was advanced to chief clerk of the auditor of capital expenditures. On April 1, 1943, he was promoted to the position he held at the time of his new appointment, effective on November 1.

OPERATING

A. M. Shea has been appointed superintendent, St. Lawrence division, of the Canadian National, with headquarters at Montreal, Que. He succeeds **H. M. Gain,** who has retired. Mr. Gain entered the service of the Grand Trunk (Canadian National) as an office boy in 1894. After serving from 1898 to 1910 as messenger and route agent of the Canadian Express Company, he was train inspector and trainmaster of the Grand Trunk at Montreal. Later he became trainmaster of the Canadian National at Belleville, Ont., and Richmond, Que., successively, being advanced in 1924 to the position of assistant superintendent of the former Portland division at Richmond. In 1927 he was named assistant superintendent of the St. Lawrence division, becoming superintendent of that division in 1939. This position he held until his recent retirement.

Edgar Alexander Robertson, superintendent of the Moncton division, Canadian National, whose appointment as superintendent of transportation, Atlantic region, was announced in the *Railway Age* of December 4, was born at Montreal, Que. He entered railroad service on August 13, 1906, as a clerk in the engineering department of the Canadian Government (now Canadian National) at Moncton, N. B. In August, 1912, he was transferred to the operating department as train agent, becoming clerk in the general superintendent's office the following year. In September, 1916, he was named chief clerk, and in January, 1929, he was appointed assistant superintendent, Moncton division. Mr. Robertson was promoted to superintendent, Moncton division, in August, 1939, and

Edgar Alexander Robertson

served in that capacity until his recent appointement as superintendent of transportation, Atlantic region, with headquarters at Moncton.

G. J. McClosky, assistant trainmaster of the Chicago Terminal division of the Pennsylvania, with headquarters at Chicago, has been promoted to trainmaster of the Logansport division, with headquarters at Logansport, Ind., succeeding **H. P. Lowry,** who has been granted a leave of absence to enter military service.

Thomas Mudge Spence, whose appointment as general manager of the Southern Pacific Lines in Texas & Louisiana was announced in the *Railway Age* of December 11, was born at Evergreen, Ala., on October 6, 1890. He entered railroad service in 1905 as a telegrapher of the Louisville & Nashville, and served with several railroads in the South and Southeast until 1915 when he became telegraph operator for the Southern Pacific Lines at Lafayette, La. There he was train dispatcher, night chief dispatcher, chief dispatcher and then trainmaster until 1927 when he was named assistant superintendent of the Dallas division with headquarters at Ennis, Tex. In 1928 he was transferred in the same capacity to the Houston division and in 1931 he was assigned to the Victoria division.

Thomas Mudge Spence

He returned to the Houston division in 1934 as assistant superintendent, and the following year he was appointed superintendent of the Dallas-Austin division. This position he retained until his recent appointment as general manager with headquarters at Houston, Tex.

John Joseph Moore, whose promotion to the position of assistant general manager with headquarters at Houston was announced in the *Railway Age* of December 11, was born in Dublin, Ireland, and started railroading as a fireman of the San Antonio and Arkansas Pass (now Southern Pacific) at San Antonio, Tex., in December, 1906. In April, 1913, he was appointed conductor, and in February, 1917, became yardmaster at Yoakum, Tex. After serving in World War I he returned to Yoakum in the same position, and was promoted to trainmaster January 1, 1923, becoming trainmaster of the Austin division when the road which he served was consolidated with the Southern Pacific. He was transferred

John Joseph Moore

to Victoria, Tex., in January, 1932, and promoted to assistant superintendent, Victoria division, in August, 1935. He became superintendent, Houston division, in 1940, and served in that position until his recent

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Simple, but revolutionary ...the Wheel

Unchanged in principle since its invention in pre-historic times, the wheel has changed the whole economic history of mankind. Men have improved the wheel itself, not the principle behind it.

On this page is shown a wheel improvement which figures importantly in the vital field of railroading. Union Steel's unique Web-Spoke Driving Wheel Centers are standard on many of the industry's most famous engines.

E NAVY

UNION STEEL CASTINGS

DIVISION OF
BLAW-KNOX CO.
PITTSBURGH, PA.

The new L & N "M-1's", the road's most powerful freight locomotives, are equipped with Union's Web-Spoke Driving Wheel Centers in all positions.

UNION WEB-SPOKE DRIVING WHEEL CENTER

Insert illustrates adaptation of one wheel for front, back and intermediate positions, with auxiliary pockets for precision balance. Note these important features:

1 Cruciform section spokes for great additional strength.

2 Reinforced rim support to eliminate flat spots, out-of-roundness, etc.

3 Correct distribution of metal for better balancing of small-diameter wheels.

4 Wheels easily inspected before and after installation.

5 Troubles due to shrinkage eliminated by simplicity in design.

6 Can be made to any material specification.

BUY UNITED STATES WAR BONDS AND STAMPS

appointment as assistant general manager at Houston.

James F. Nellis, whose promotion to superintendent of the St. Louis Terminal division of the Wabash was reported in the *Railway Age* of December 11, was born at Detroit, Mich., on January 17, 1904, and received his education at the University of Detroit. He entered railway service with the Wabash in May, 1929, as a rodman, subsequently serving in various capacities in the engineering department until October, 1939, when he was promoted to acting assistant trainmaster of the St. Louis Terminal division. On April 1, 1940, he was advanced to trainmaster, with headquarters as before at St. Louis, Mo. On March 1, 1942, Mr. Nellis was transferred to Montpelier, Ohio, and on May 11, 1943, he was promoted to division engineer, with headquarters at Decatur, Ill. On December 1, 1943, he was appointed trainmaster, with the same headquarters, holding that position until his new appointment, effective December 6.

Chester A. Johnston, whose promotion to superintendent of transportation of the Wabash, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of December 11, was born at Logansport, Ind., on September 1, 1895, and received his education at Purdue University and the University of Arizona. He entered railway service in 1917 as an assistant on the engineering corps of the Pennsylvania with headquarters at Louisville, Ky., later serving in the same capacity at Indianapolis, Ind., and Terre Haute. In 1924 he became an assistant engineer of the Wabash, with headquarters at Decatur, Ill., and one year later he was advanced to resident engineer, with headquarters at Adrian, Mich. In 1927 Mr. Johnston was promoted to track supervisor of the Chicago Terminal division, with headquarters at Chicago, and in 1930 he was further advanced to division engineer of the Detroit division, with headquarters at Montpelier, Ohio. One year later he was promoted to superintendent of the Detroit division, with the same headquarters, and in 1932, he was appointed division engineer of the Montpelier division. In 1934 Mr. Johnston was advanced to superintendent of the St. Louis Terminal division, being transferred to the Montpelier division in 1936 and to the Decatur division in 1940, remaining in the latter location until his new appointment became effective on December 1.

TRAFFIC

R. D. Sandberg, assistant general freight agent of the Columbus & Greenville, with headquarters at Columbus, Miss., has retired on account of ill health.

O. M. Sandahl, assistant traffic manager, solicitation, of the Minneapolis & St. Louis, with headquarters at Minneapolis, Minn., has been promoted to freight traffic manager, with the same headquarters. The position of assistant traffic manager, solicitation, has been abolished. **L. S. Nichols,** assistant traffic manager, rates and divisions, has been advanced to freight traffic manager, rates and divisions, with headquarters as before at Minneapolis.

Mr. Sandahl was born at Centerville, Iowa, on January 11, 1889, and entered railway service at that point on November 1, 1904, as a telegraph operator of the Iowa Central (now a part of the M. & St. L.). Later he became a telegraph operator of the Des Moines Union at Des Moines, Iowa. On October 1, 1910, he went with the New York Central as a stenographer and solicitor at Des Moines, but left that road in February, 1918, to enter the U. S. Army. Mr. Sandahl returned to railroad service in December, 1922, when he became a clerk and solicitor of the M. & St. L. in Des Moines. He was subsequently appointed traveling agent at Des Moines; traveling agent at Chicago; general agent at Detroit, Mich.. and general agent at Boston, Mass. On May 1, 1937, he was promoted to assistant general freight agent at Minneapolis and in May, 1938, he was advanced to general freight agent with the same headquarters. In October, 1941, he was promoted

O. M. Sandahl

to the position he held at the time of his new appointment.

H. J. Nelson, general agent of the Illinois Central, with headquarters at Portland, Ore., has been promoted to general western agent, with headquarters at San Francisco, Calif. **P. J. Snapp,** district service agent, with headquarters at Seattle, Wash., has been advanced to general agent at Portland, succeeding Mr. Nelson.

F. J. McCormick has been appointed general agent of the Lehigh Valley with headquarters at New York, succeeding **B. L. Vorhis,** who has been appointed assistant to freight traffic manager, also at New York.

J. M. Hurley, general agricultural agent for the New York, Ontario & Western, has been promoted to the position of assistant general freight agent with headquarters at New York. He will continue to have charge of agricultural development, with headquarters at Middletown, N. Y.

MECHANICAL

H. F. Finnemore, who has been appointed assistant chief electrical engineer of the Canadian National, was born at Chicago on March 18, 1893. He received a B.S. degree in electrical engineering from Queen's University at Kingston, Ont., in 1917, entering railroad service in March of the following year as a draftsman for the Canadian Government Railways (now Canadian National). In September, 1922, he was appointed assistant engineer of the Canadian National, becoming assistant electrical engineer with headquarters at Montreal, Que., in 1923. In July, 1938, he was named electrical engineer at Montreal, and maintained that position until his recent appointment as assistant chief electrical engineer. Mr. Finnemore has been in charge of many important electrical assignments, including the development of Diesel-electric cars; the introduction of air-conditioning into Canadian National passenger equipment; and the installation of the electrification system for the Montreal terminal development.

H. F. Finnemore

L. W. Doggett has been appointed mechanical engineer of the Virginian, with headquarters at Princeton, W. Va.

ENGINEERING & SIGNALING

H. J. McKenzie, assistant to the chief engineer of the Southern Pacific Lines in Texas and Louisiana, with headquarters at Houston, Tex., has been appointed assistant chief engineer, a change of title. The position of assistant to the chief engineer has been abolished.

George E. Robinson, assistant engineer of structures of the New York Central, Lines West of Buffalo, with headquarters at Cleveland, Ohio, has been promoted to assistant engineer of structures, New York Central System West of Buffalo (including the Michigan Central and the Big Four), with headquarters at Chicago, a newly-created position. **A. M. Westenhoff,** assistant engineer of bridges, Lines West of Buffalo, with headquarters at Chicago, has been advanced to assistant engineer of structures, Lines West of Buffalo, with headquarters at Cleveland, succeeding Mr. Robinson.

Mr. Robinson was born at Lowell, Mass., on March 5, 1896, and was graduated in civil engineering from Worcester Polytechnic Institute in 1917. He entered railway

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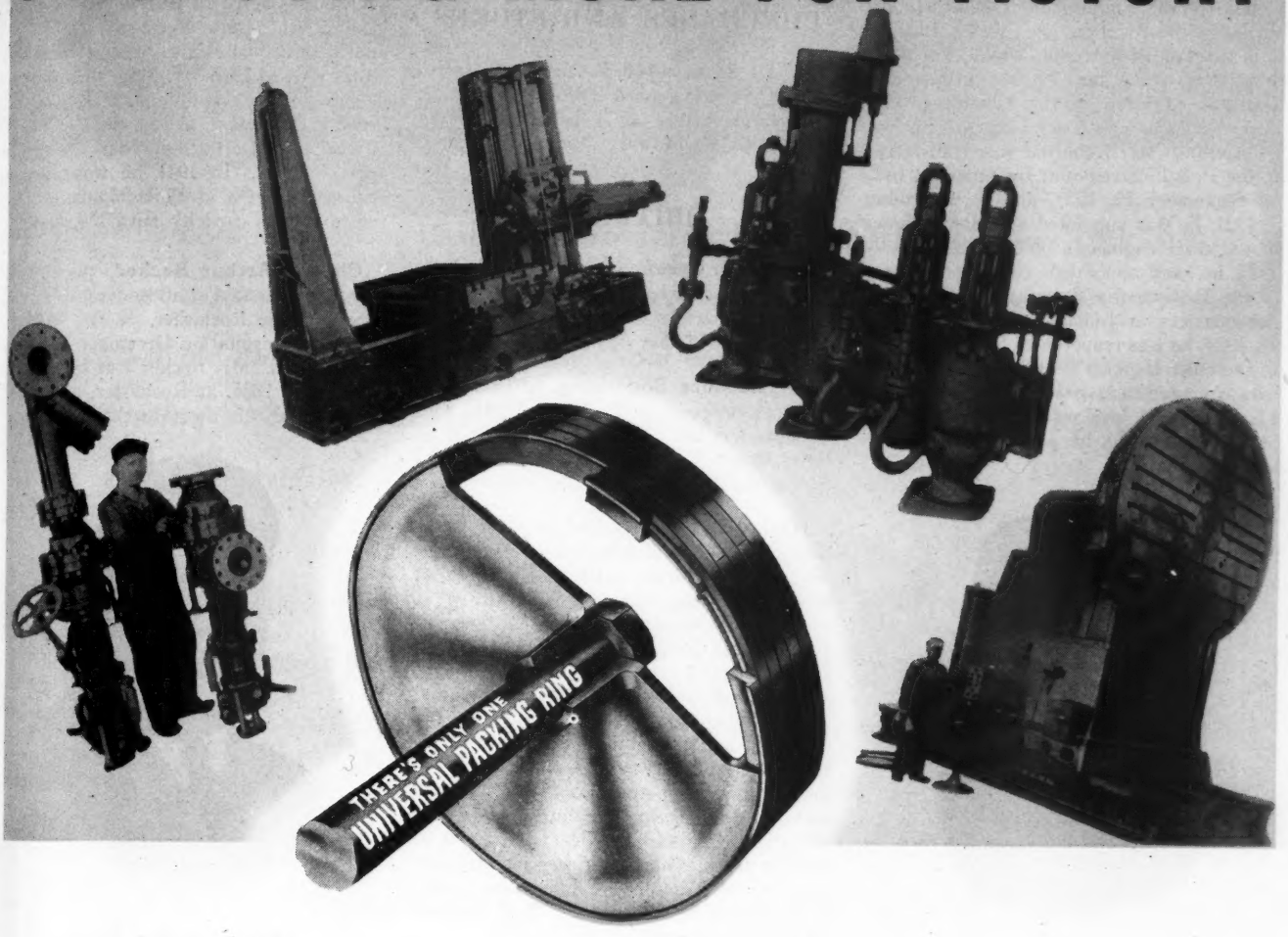
PRODUCING MORE FOR VICTORY



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and Combination Universal Sectional
BULL AND PACKING RINGS

service on August 24, 1917, in the chief engineer's office of the Big Four at Cincinnati, Ohio, and on October 23, 1917, he went with the U. S. Army, serving as a captain in the Engineering Corps. He returned to the Big Four on July 27, 1920, as a draftsman in the chief engineer's office, and a few weeks later he was promoted to assistant engineer of the Cincinnati-Sandusky division, with headquarters at Springfield, Ohio. Mr. Robinson was transferred to the P. & E. division at Indianapolis, Ind., on September 19, 1921, and on December 5, 1921, he was appointed a bridge designer in the chief engineer's office. On May 16, 1923 he was appointed assistant engineer of the Indianapolis Terminal division, with headquarters at Indianapolis, and on June 18, 1924, he was reappointed bridge designer in the chief engineer's office. Mr. Robinson was promoted to assistant engineer on April 12, 1926, with headquarters at Cincinnati, and in June, 1940, he was advanced to assistant engineer of structures, with the same headquarters. In October, 1942, he was transferred to Cleveland, remaining in that location until his new appointment, effective December 1.

George E. Robinson

Angus Stirling Gunn, engineer right of way of the Canadian National, with headquarters at Moncton, N. B., has been appointed principal assistant engineer with the same headquarters. Mr. Gunn was born at East River, St. Mary's, N. S., and entered the service of the Canadian National in September, 1913, as a draftsman in the engineering department. After serving in World War I he returned to railroading in May, 1920, as assistant engineer, and became construction engineer in June, 1929. In January, 1933, he was appointed engineer right of way, and held that position until his present appointment as principal assistant engineer with headquarters at Moncton.

SPECIAL

E. B. Kysh, assistant to the general manager, personnel, of the Southern Pacific Lines in Texas and Louisiana, with headquarters at Houston, Tex., has been appointed first assistant manager of personnel, a change of title. The position of assistant to the general manager, personnel, has been abolished.

PURCHASES AND STORES

C. L. Sass has been appointed storekeeper of the Detroit & Toledo Shore Line, with headquarters at Toledo, Ohio, succeeding **C. F. Maunz,** deceased.

OBITUARY

James F. Green, who retired in 1928 as general attorney of the Missouri Pacific, with headquarters at St. Louis, Mo., died at his home in that city on November 18.

J. Theodore Soderberg, assistant mechanical engineer of the Pennsylvania with headquarters at Philadelphia, Pa., died in Bryn Mawr, Pa., on December 9. He was 52 years old.

Harry E. Tyrrell, chief engineer maintenance of way and structure of the Southern, Central Lines, with headquarters at Knoxville, Tenn., died following an operation on December 5. He was born at Philadelphia, Pa., in July 1882, and entered railroad service with the Pennsylvania. He also worked on the Philadelphia & Reading, and the Norfolk & Western, and joined the Southern in 1906, holding various positions from that of transitman to supervising engineer at Washington, D. C. In 1915 he was appointed engineer maintenance of way of the St. Louis-Louisville district, and in 1934 he became chief engineer maintenance of way and structures, Central Lines, with headquarters at Knoxville. This position he held at his death.

Francis Boardman, for the past 17 years assistant manager of Grand Central terminal, New York, died at New York on December 12. He was born at Rutland, Vt., on August 15, 1875, and entered the service of the New York Central 43 years ago as a chairman at Buffalo, N. Y. In August of the same year he was transferred to Hudson, N. Y., as assistant supervisor of track. His next position was that of assistant engineer and supervisor of track at White Plains, N. Y., where he served until 1904. He was then named assistant engineer, two years later becoming designing engineer and division engineer. In 1923 Mr. Boardman was appointed building manager, Grand Central terminal, and in February, 1926, was named to the position of assistant manager of the terminal. He was serving in this capacity at the time of his recent death.

William W. Mayer, real estate agent of the Pennsylvania and of the Pennsylvania-Reading Seashore, with headquarters at Philadelphia, Pa., died December 9 at a Philadelphia hospital. He was born at Mifflin, Pa., on July 30, 1879, and entered railroad service in 1899 as an agent in the real estate department of the Pennsylvania at Mifflin. He served in this position at several locations until 1912, when he became a special agent in the real estate department at Philadelphia. In 1918 he was named assistant to the general real estate agent, and from 1920 to 1926 he was real estate agent at St. Louis, Mo., and Pittsburgh, Pa., successively. In 1926 he was appointed general real estate agent at Philadelphia, and in 1932, real estate agent at New York. From 1934 to 1940 Mr. Mayer again served as general real estate agent at Philadelphia, becoming assistant to the vice-president in charge of real estate, purchases and insurance, in 1940. In 1941 he was appointed real estate agent at Philadelphia, and continued in this capacity until his death.

Charles Arthur Becker, vice-president and general manager of the Despatch Shops, Inc., at East Rochester, N. Y., died in a Rochester hospital on December 3. He was 58 years old. Mr. Becker was born on December 27, 1885, at Rochester, and entered the service of the Merchants Despatch Transportation Company (now Despatch Shops, Inc.) as a clerk in May, 1908. In October, 1913, he was appointed chief clerk to superintendent, and in August, 1923, assistant to vice-president and general manager. Mr. Becker became assistant general manager in 1937, and vice-president and general manager on January 1, 1939. He continued in this position until his death on December 3.

Charles Arthur Becker

NORTH CHINA RAILWAY.—"In the 4 years it has been operating, the North China Railway Co. is reported by a Japanese broadcast to have increased its mileage from 3,100 to 3,725, to have trebled its passenger traffic since 1939 and to have increased freight transportation 50 per cent."—(Foreign Commerce Weekly.)

AWARDS TO EMPLOYEES. — Since last March, more than $8,700 has been awarded employees of Baldwin Locomotive Works for 300 prize-winning "Production for Victory" proposals. The program, which is directed by the plant's labor-management production committee, encourages employee ideas for increasing production, lowering costs, and for materials' saving and safety promotion. Prizes range up to $75, and about 175 suggestions are offered monthly.